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AUTHOR Tamayo, Ann Loreto
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ABSTRACT

This paper describes and compares three teacher-training models for population education. The analysis emphasizes the use of the models for the Filipino Population Education Program (PEP), but also discusses their applicability to other programs in the Philippines and elsewhere. The three models are 1) superordinate training, which constitutes a superior-subordinate relationship between trainer and trainee; 2) peer training, using a teacher-to-teacher structure; and 3) a modular approach, characterized by the use of self-instructional materials. Currently, PEP emphasizes superordinate training to provide inservice lectures and workshops to large numbers of population education teachers. All three models are effective in positively changing trainees' knowledge and behavior, but they differ in levels of developing favorable attitudes and improving skills. The modular approach is more beneficial than the others in terms of smoother and easier management. In terms of training staff, superordinate and peer-teaching models require larger numbers of qualified trainers than does the modular approach. The modular approach requires the shortest period of time for training and is the least expensive to implement. The report concludes with outlines of seven workshop models for training teachers and administrators using a combination of the three approaches described above. (AV)

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Population Education Research Utilization
Monograph Series 2 Part 1

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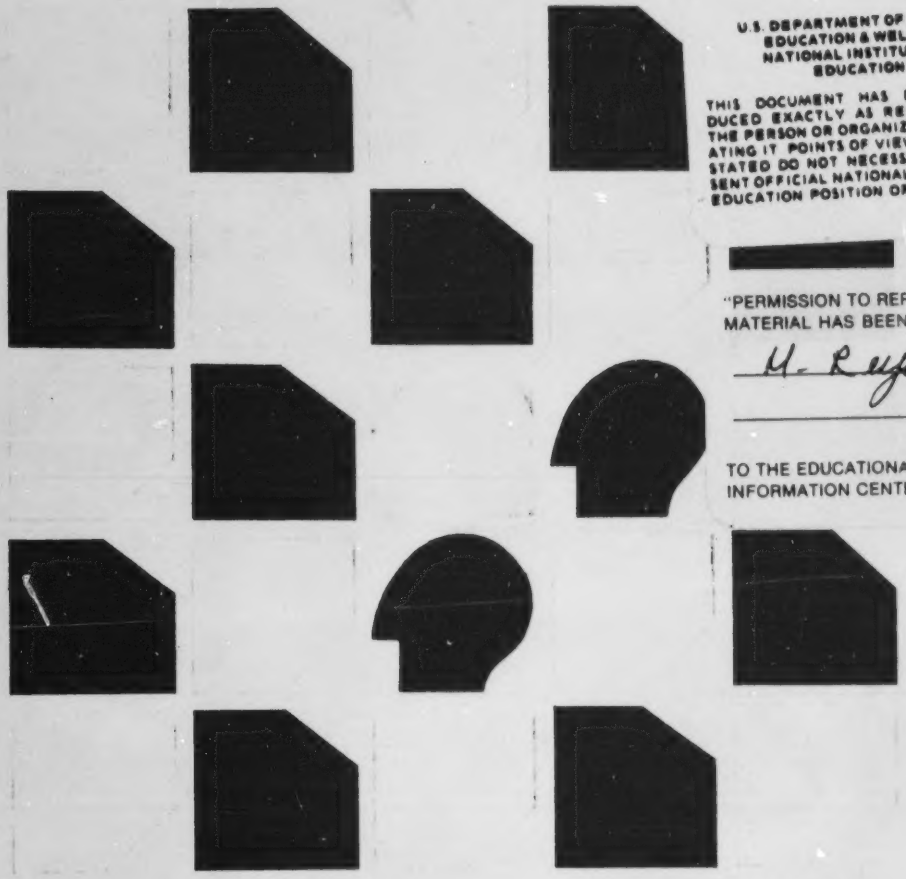

TEACHER TRAINING SCHEMES IN POPULATION EDUCATION

ANN LORETO TAMAYO
Population Education
Research Utilization Project

Population Information Division
Population Center Foundation
Makati, Rizal, Philippines
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AUTHOR OF THIS NUMBER
Ann Loreto Tamayo

EDITORIAL CONSULTANTS
Rosario Alberto, Ph.D. Educational Administration, University of Washington
Jose Arong, Ph.D. Education, Stanford University
Leonardo de la Cruz, Ph.D. Education, Stanford University
Thomas Dohm, Ph.D. Candidate in Psychometric Methods and Differential Psychology
Generoso J. Gil, Jr., Doctoral Fellow, Stanford University and East-West Center
Vicente G. Tirol, Editor of Publications, Population Information Division, Population Center Foundation

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Jose Luis Ledesma, Director

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CONTENTS

Foreword . . . . . p. 4

The Research Utilization Program . . . . . p. 6

Feedback as Problem Solver . . . . . p. 9

Overview . . . . . p. 12

Introduction . . . . . p. 13

Teacher Training Schemes . . . . . p. 16

Comparative Analysis of
Teacher Training Schemes . . . . . p. 27

a) Superordinate Training . . . . . p. 27

b) Peer Training . . . . . p. 44

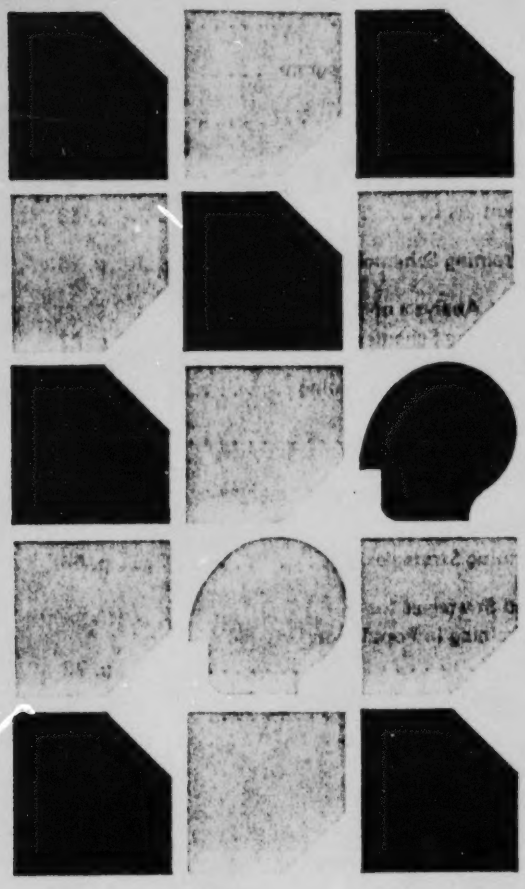
c) Modular Training . . . . . p. 56

Summary of the Effectiveness
of the Training Strategies . . . . . p. 66

Models and Strategies for
Teacher Training in Population
Education . . . . . p. 72

Footnotes . . . . . p. 89

FOREWORD



The second cycle of the Population Education Research Utilization program of the Population Education Program (PEP) and the Population Center Foundation (PCF) revolved around the theme "Toward More Effective Strategies and Evaluation of Teacher Training in Population Education."

The theme for this second cycle was earlier identified by the participants of the first series of conferences held in the summer of 1975. They unanimously agreed that problematic issues in teacher training must first be ironed out before population education can be taught effectively in the schools.

The specific research gaps and problematic issues in teacher training dealt with in this second cycle's series of conferences were identified in spadework interviews with trainers, supervisors, teachers, and PEP staff in five selected Luzon and Visayan provinces.

Based on the results of the interviews and an exhaustive literature search, three papers were written to serve as springboard for discussion in these conferences: (1) "Teacher Training Schemes in Population Education", (2) "Strategies for Value Clarification in Population Education", and (3) "Effective Evaluation of Teacher Training in Population Education". In addition, we provided participants with the series of the abstract-bibliography publications, state-of-the art paper on the population education teacher training program, a package of value clarification models, and the Research Utilization program of the Population Information Division of PCF.

The three literature reviews made no claim to being authoritative or prescriptive. Their primary objective was to compare and analyze alternative models and strategies for conducting teacher training, clarifying values, and evaluating teacher training programs in the hope that participants will test these strategies against their own experiences in teacher training.

During the conferences, the feedback and recommendations that participants shared with us and among themselves provided the needed directions for practice, policymaking, and research in the field of teacher training in population education. Also, based on the feedback, participants designed their own teacher training, value clarification and evaluation models, giving due attention to research results and alternative models presented in the three literature reviews.

The term "Research Utilization" refers to the application of research results and scientific knowledge to the solution of practical problems in the field. It also means gathering feedback from the field to help frame future policy and research. For this second cycle, however, research utilization did not end with the gathering of feedback and the consolidation of reactions and recommendations made by participants at each level. Nor did it stop with the writing and the dissemination of recommendations to other professionals through various channels of communication.

The ultimate aim was to set up, through the round-table conference, a Task Force composed of key representatives from the preceding practitioners', administrators', policymakers' and researchers' conferences for the following purposes: (1) to thresh out unresolved issues of the three preceding conferences; (2) to consolidate recommendations made at each level; and, (3) most importantly, to devise a monitoring strategy for following-up proposed recommendations. This insured proper utilization of research results into the program.

The theme of this second cycle of conferences is very timely, for the Training Unit of the Population Education Program (PEP) has just completed an evaluation of its old training strategy. It is, at present, pilot-testing a new scheme for teacher training. Before PEP can properly identify and decide on the most feasible and effective training strategy for the program, considering objectives and allocated resources, alternative models and schemes have to be explored and tested. The content of the literature reviews and the results of conference discussions provided this needed direction, and basis for decision-making.

This monograph and the other two in these series of monographs are the final product of combining the content of the three literature reviews with the reactions and recommendations of the conference participants.

THE RESEARCH UTILIZATION PROGRAM

The Population Education Research Utilization project was designed and implemented to test and put into effect the Population Information Division's (PID) core program of research utilization. The strategy employed by the program aims to facilitate the flow of scientific and technical information between and among practitioners, administrators, policy planners and researchers in the population field, in order to maximize the application of research results to policy and professional practice.

PID developed the Research Utilization Program to counter factors that tend to limit the application of research findings and technical information to policy and professional practice. These factors are:

1. *The flow of research results and other technical information from researchers to practitioners and policy planners is restricted by a number of bottlenecks.* Research results are seldom used by practitioners and policy planners because: a) the results seldom reach them; b) if they do, they are not read; c) even if read, they are seldom intelligible; and d) even if intelligible, they are seldom implementable because variables focused on in very many studies are not under the control of the practitioners or policy-makers.

2. *Problems of policy planners and practitioners are seldom the starting points of research.* Unless directly contracted, researchers seldom take the problems of policy planners and practitioners as starting points for their studies, for the following reasons:

   a. To the extent that many problems simply stem from the lack of resources, research is unnecessary;

b. Even where new information is needed, the action agency's self-monitoring and information-gathering capabilities often suffice to retrieve or produce the information;

c. Where the action agency tries to get researchers interested in its problems, researchers may find the problem trivial or otherwise uninteresting.

3. ***Research utilization has to be linked with decision-making and innovation.*** The communication and dissemination of research results are seldom planned to encourage the adoption of innovative methods in policy and practice. Research utilization involves the acceptance of new ideas and practices. Thus, it has to take into account the decision-making structure of action agencies. The adoption of innovations calls not only for the diffusion of information, but also a conscious decision to adopt such methods by individuals and organizations. For some innovations, decisions can be freely made by the adopting unit; for others, such decisions are contingent on earlier enabling decisions made by someone in authority; for still others, these decisions are authority decisions that simply have to be obeyed. Also, adoption decisions may be individual or collective. Given that research utilization involves the adoption of innovations and that the latitude one has in adopting innovations depends on one's position in the authority structure, the Research Utilization Program has segmented the audience of population professionals into researchers, practitioners, administrators and policy planners in terms of their capacity to make decisions to adopt innovations.

Major Functions

The research utilization program encompasses four major functions: (a) *research transformation* – development of states-of-the-art, based not only on a review of the literature, but also on feedback from professionals in the population field to guide policy and practice; (b) *dissemination* – communication through print and electronic media of these scientific findings as well as case studies to sub-audiences of population professionals; (c) *information retrieval* – collection, indexing, and abstracting of research information – in print, film or microfilm – to be transformed or disseminated; and (d) *research* – implementation of research on the flow of scientific knowledge needed to implement the basic research utilization strategy; also, when the research transformation function warrants it, further analysis (secondary analysis) of research data collected by others.

The basic unit of the program is a 12-to 18-month *research utilization cycle,* covering information retrieval, research, research transformation and dissemination on a problem or cluster of interrelated problems felt by action agencies. The Information and Research Utilization Program will concentrate on four major content areas – biomedicine; information, education and communication; population education; and the social sciences.

The research utilization strategy was first pilot-tested in the field of population education. This decision was made out of the full realization that population education is a relatively new field in the National Population Program. Because it is a new program, there is a great and urgent need for policy planners and administrators to seek "valid knowledge" from research and experience. This will help them identify their needs and their problems better, plan out more relevant projects, and form innovative strategies and practices which will effectively involve the schools in the solution of the population problem.

At present, the Population Education Program of the Department of Education and Culture (DEC-PEP) is engaged in a continuous process of curriculum revision. Since population education is a new field, PEP believes that it is imperative that the curriculum be continually altered to reflect new ideas from research and observation on what should be taught and how it should be taught. The same is being done with PEP's teacher training activities. The PEP is trying various alternative training models and strategies to determine which will be the most effective vehicle for delivering population education knowledge and teaching competencies to teachers in the field. Definitely, research findings and practical experiences of other agencies and individuals involved in teacher training can serve as valuable inputs into policy planning and practice.

In the other population fields like social sciences, IEC, and biomedicine, there is a proliferation of disciplines and agencies, with disparate programs. This is not so in education. It is, in fact, one of few programs which have a central body. The DEC-PEP plans, implements, and coordinates population education activities in the whole country. It has authority and direct control over the teaching of the subject in all levels – elementary, secondary, teacher-training institutions, and colleges and universities – both public and private. This organizational structure makes for fast and centralized introduction of policies and decisions involving population education activities at all levels and sectors. Furthermore, the issuance of a Department Order or a memorandum from the Secretary of Department of Education and Culture can help facilitate the transmission and implementation of these policies. The decision-making structure under which the population education program works, then, provides a clear entry point for the research utilization strategy.

The program had another feature which lends itself to a research utilization strategy. This is the distinctive delineation of the population education professionals into the four target audiences: practitioners, administrators, policy planners and researchers. These audiences who belong to a certain level are composed of individuals with clearly identifiable and homogenous functions unlike in IEC or Social Sciences where a particular level of professionals is composed of audiences with varied roles and functions. The teachers are the practitioners, the principals and supervisors the administrators, and the superintendents and PEP key staff the policy planners. This relatively simple organizational set-up for personnel and professionals facilitates the diffusion and application of innovation and research results in the field of population education.

FEEDBACK AS PROBLEM-SOLVER

Population Education is a relatively new field and is considered an innovation in the school system. Despite the many difficulties involved in its implementation, the Population Education Program (PEP) accepted the challenge of deliberately educating individuals on the facts, implications and consequences of population growth. At this stage, it has succeeded in training a certain number of elementary and secondary teachers in integrating population education concepts into the five subject areas: health, science, social studies, mathematics and home economics.

Many of the decisions which the PEP had to make early in the process of program development grew out of the policyplanners' newly-acquired knowledge in population education, of consultations with foreign and local educators, and of available manpower and financial resources. There were no conclusive studies on which to base plans and policies in pursuing three principal projects: curriculum development, teacher-training and research.

Problems central to the three areas of curriculum development, teacher training, and research have emerged from actual implementation. The Research Utilization (RU) conferences held last summer 1975 (Cycle I) for varying professional levels involved in curriculum development were instrumental in obtaining valuable feedback from the field. As a result, problems encountered by teacher practitioners and supervisor administrators were brought to the attention of policymakers in curriculum development.

PEP responded by initiating experimental projects on the manner of introducing population education into the curriculum*, augmenting existing pupil guides and teaching material-references**, and stressing the process of value clarification in their curriculum materials.

During the first series of RU conferences, the need for gathering feedback on problems regarding teacher training also surfaced. Participants traced the root of major problems in curriculum development to teacher training. This subsequently became the problem focus for the second series of conferences.

With the theme of the second series of feedback conferences already identified, the RU: Population Education staff of the Information Division of the Population Center Foundation undertook a series of spadework interviews in the cities of Manila, Bacolod, Iloilo, Baguio, and Laoag. The interviews principally sought to ascertain specific problems confronting the PEP Training Officers, eleven teachers, supervisor-trainers, and college instructors in the many dimensions of teacher training. Particular attention was given to problems answerable by research.

*Proposal to experiment on a mini-course in Nueva Ecija is seriously being considered by the PEP Curriculum Unit.

**Self-learning units for Grade 6 pupils (where dropout rate is highest) are currently being tried out. Self-learning teacher modules consisting of 12 instructional units for training elementary teachers in population education are also being tested.

The interview results were further supported by reading background papers, documents and PEP annual reports. The preliminary investigation pinpointed three crucial issues in teacher training. The following were the results pertinent to offering logical directions for an exhaustive literature search.

1. Although the present training scheme successfully transmitted content knowledge in population education, the program's target goals will not be met by the year 1977.

   There was need to examine the causes of the delay, and to review alternative teacher training schemes and strategies. The schemes should be supported by research dealing with variables working for or against the feasibility and effectiveness of each scheme.

2. A systematic evaluation of the training programs that supervisor-trainers conduct was lacking. In addition, follow-up and communication links between the Central Training Staff, STTs and teachers have not been well established.

   A paper embodying training evaluation principles and theories established by program evaluation aspects should help draw up recommendations for an improved evaluation and follow-up system.

3. Training gives little emphasis to the value clarification process, with the result that teachers and trainers find it difficult to handle value-laden questions. To help them solve this problem, teachers and trainers requested for research materials on strategies for value clarification.

Having gathered sufficient information on training practitioners' research needs, the staff went into an exhaustive literature search on three topics: Teacher Training Schemes, Evaluation of Training, and Models and Strategies for Value Clarification. This involved developing valuable contacts with individuals, resource centers, and agencies who have access to resource materials on teacher training in population education. Although local materials were given high priority, difficulty was experienced in locating research studies which have direct bearing on the topics being developed.

The literature reviews reprinted in this monograph offers alternative solutions to the three priority problems in teacher training, and present innovative strategies found to be effective by research. But research can only be as reliable as the conditions in which variables have been made to play. This underscores the need for administrators and policy-makers to validate and strengthen research by considering its workability under conditions to which the practitioner – who will eventually be testing these strategies – will be subjected.

It is in this context that the conferences are primarily designed to:

1. facilitate the application of research results and scientific knowledge to the solution of practical problems in the field; and
2. gather feedback from the field to help form future policy.

OVERVIEW:

This literature review deals with strategies for training the primary implementor of population education – the classroom teacher. Presented are three training models: superordinate, peer and modular, which are applicable for teacher training programs. The training scheme is of primary concern in this paper because it constitutes a basic function in the operation of a training program. The success of the program depends to a large extent on the type of training scheme adopted.

The teacher training project of the Population Education Program (PEP) provides the perspective from which these training strategies are discussed. The PEP at present operates a nationwide program for training teachers in population education.

The literature review focuses on the framework and viability of each training model. Factors and conditions that affect the feasibility of each training scheme are assessed to give an overall view of the effectivity or non-effectivity of each strategy when applied to teacher training in population education.

Finally, a comparative analysis is made of the three training strategies according to certain variables that are deemed essential to a facile organization and management of teacher training. The comparison, in addition, is made within the context of the current problems of the PEP training program. In conclusion, implications are drawn on the adoption of each training strategy to the general progress of the PEP teacher training program.

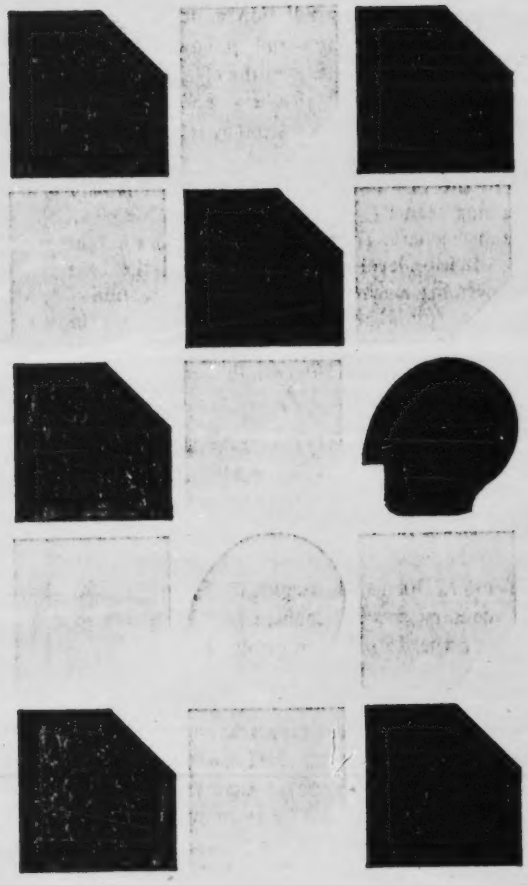
INTRODUCTION

Teacher training plays an important role in the development and implementation of a national population education program. The teacher is crucial to the success of the program because he constitutes a basic information channel in the educational process. He is the primary disseminator of population education in the classroom. But before the teacher can instill population awareness in the student, he must himself first acquire sufficient knowledge, favorable attitudes, and the necessary competence to teach population education effectively.

In formulating a national population education program, the Department of Education and Culture, through the Population Education Program (PEP), thus undertook teacher training as one of its functions, together with curriculum development and research. What has evolved is a five-year program that includes both preservice and in-service training of public and private school teachers.

Started in 1972, the Population Education Program teacher training program originally aimed to reach 65% of the total number of elementary school teachers, 20% of those teaching on the secondary level, and some 360 college instructors. The training scheme entailed a two-step process, whereby division supervisors would first be trained for five weeks by the Population Education Program national training staff, after which the supervisors would form teams to give one-week training to teachers in their respective school divisions. However, questions were later raised regarding the effectiveness of this training strategy. During the 1975 research utilization conferences on curriculum development in population education, some of the participants expressed the need for a review of the training scheme in use. The teachers and some supervisors noted that the one-week training was inadequate to equip teachers with the necessary skills and competence to teach population education effectively. The researchers and policymakers, on the other hand, questioned the efficacy of echo seminars for training teachers. They observed, for instance, that such a strategy may dilute the content and quality of training as it goes down from the PEP national staff to the supervisory training teams (STTs) and finally to the classroom teachers. They also asked whether in fact the division-level administrators are the best trainers for teachers in population education – whether middlemen are at all necessary in teacher training. *(Population Education Research Utilization Monograph Series 1, Part 2).*

The feasibility of the training scheme in achieving program target goals has also been questioned. A UNFPA-assisted undertaking, the Population Education Program training program was scheduled to be completed by the summer of 1977. But as of August 1975, only 54,264 elementary school teachers had been trained, out of the 187,000 originally targeted, while training of secondary school teachers started only in July of the same year. And although all the stipulated supervisory training teams had undergone training, only 197 of the 410 trained supervisors were active at that time, the rest having been promoted or retired. In fact, the UNESCO evaluation team, in its mid-term assessment of the Population Education Program training program, identified the training scheme used as a main cause of the slow pace of teacher training.



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Early in 1976, the Population Education Program, thus tried out a revised training scheme in some 17 school divisions. The new strategy calls for the supervisory training teams to conduct orientation seminars for previously-trained district supervisors and elementary school principals, and five-day training for secondary school principals and heads of the five main subject areas (Social Studies, Science, Mathematics, Health, and Homemaking Arts). These administrators in turn administer 40-hour training programs for the teachers in their respective schools.

After receiving positive feedback on the scheme's effectiveness in speeding up training and ensuring full target coverage within the allotted period, the DEC issued Department Order 144 upon the opening of the school year 1976-77. This order called for the nationwide implementation of the revised training scheme. It also increased target goals to cover all elementary and secondary school teachers.

The issues raised regarding the training scheme however, lead to some very basic questions regarding population education training for teachers. What is the most effective scheme in delivering population education content and methodology? Which is the most effective in bringing about program objectives in terms of increasing the teachers' knowledge, attitude, behavior and skills in population education? What is the most feasible training strategy that will increase the speed of coverage in the training of teachers without sacrificing the quality of training?

This research monograph describes and composes three different teacher training models: (a) *superordinate training*, constituting a superior-subordinate relationship; (b) *peer training*, using a teacher-to-teacher structure; and (c) the *modular approach*, characterized by the use of self-instructional materials. There are other training models, of course, but for present purposes this monograph will be limited to these three.

The Population Education Program training program currently uses the first type of training scheme. The other two strategies have also been recommended elsewhere to meet local training needs at this stage. The UNESCO mid-term evaluation of the Population Education Program, for instance, proposes peer training as a workable option, citing as advantages its economic feasibility and a faster rate of teachers training. On the other hand, the modular approach, initially designed to reach those elementary and high school teachers not covered by the on-going five-year teacher training program, is currently being pilot-tested as a joint project of Population Education Program and the East-West Communications Institute. The use of modules was also proposed by researchers and policy-makers in the first cycle of Research Utilization conferences as an alternative strategy for teacher re-training.

This monograph presents a review of literature on the framework and viability of the three training schemes, and the consolidated reactions and recommendations of a select group of population education professionals who participated in the research utilization conferences. In the first-level conference, classroom teachers and division supervisors, who constituted the practitioners' group, studied research findings in the literature and related these to training problems encountered in the field. Second-level discussions among the administrators, composed of principals, district supervisors and superintendents, were organized not only around the literature review and feedback from the practitioners, but also the just released DEC Department Order 144. Their proposals were thus confined to refinement or reinforcement of the revised training scheme proposed by the order.

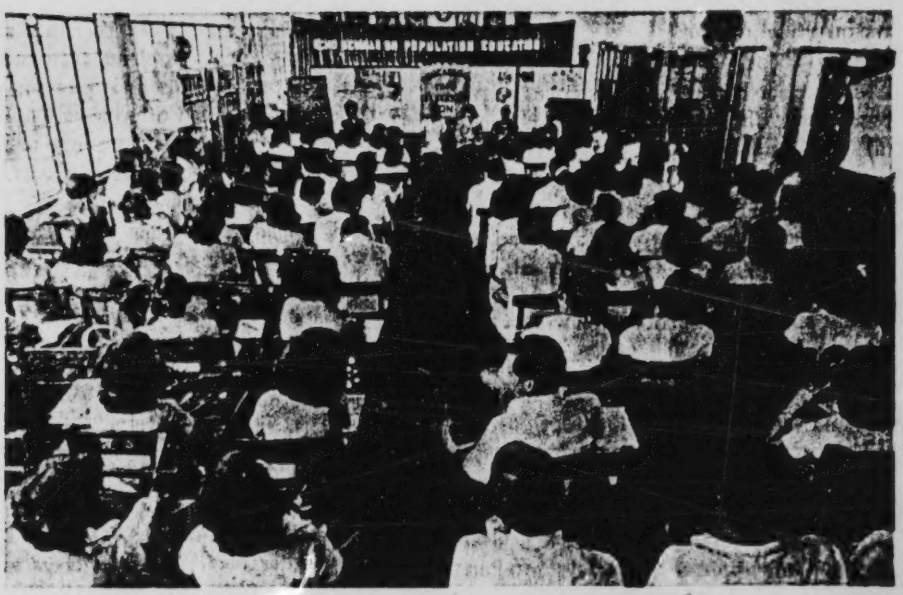
For the third-level conference, researchers and policymakers further broadened the perspective for teacher training. Since the target goal under the revised scheme was to reach all teachers by the summer of 1977, the focus was thus directed towards pre-service teacher training and the continuing education of already-trained teachers. The researchers and policymakers, however, worked mainly on the recommendations of the previous participants, to determine whether these were feasible or not.

TEACHER TRAINING SCHEMES

A. Superordinate-Subordinate Training

The superordinate scheme uses the hierarchical structure of the educational system to facilitate large-scale teacher training projects.

The experience of some Asian countries in handling teacher training programs in population education will illustrate the structure of this training model.



Based on the hierarchical nature of the educational organization, the training continuum consists of successive training sessions for the different educational levels in descending order. Thus, it involves a training process of two or more steps, wherein a selected group of specialists or key personnel first provide training for teacher trainers (superintendents, supervisors), who in turn train larger groups of teachers and other trainers. This kind of framework places the teacher, the main target of the training program, at the end of the line.

Korea – In Korea, for instance, the program trains population education personnel in several stages. First, groups of 30 undergo 10-week training courses at five universities. These are composed of teachers and principals of junior teachers' colleges and provincial in-service training centers, and selected elementary and secondary school principals. These trained faculty, assisted by the principals, make up the nuclei of training teams that are in turn responsible for training elementary teachers.

On the administrative level, principals, vice-principals and supervisors are trained through five-day courses in groups of 50 in eight universities. These secondary school principals, together with trained faculty of the provincial in-service centers, are responsible for training secondary school teachers.

The five-day courses for these teachers are conducted in some 15 universities and 11 provincial in-service training centers. In addition to providing training services, these training centers and teachers' colleges are also expected to eventually institutionalize population education by incorporating it into the normal pre-service courses of their teacher education programs.[1]

Bangladesh – The Bangladesh teacher training program in population education reports similar training of a selected staff of about 250, who will serve as key population educators and also conduct the training of teacher trainers. Participants for this group are drawn from various organizations and institutions, including the Institute of Education and Research, the Educational Extension Center, teachers' training colleges and the mobile education teams. The 15-day training program of these personnel is handled by national and international resource persons. This staff subsequently trains the next level of population education personnel – teacher trainers.

The teacher trainers are classified into two categories. The first group is composed of the principals of liberal arts colleges, polytechnic and commercial institutes, the heads of vocational institute, faculty of the agriculture colleges and sub-divisional education officers. This group is trained through one-week workshops at the institute of Education and Research and the Educational Extension Center. The headmasters of secondary schools and Thana education officers constitute the second category of teacher trainers. They are trained through mobile education teams.

Following their training, these two groups become the trainers for elementary school teachers. The training of high school teachers is conducted through mobile population education teams. On the college level, a 10-day training course is given to professors at the same institutes responsible for training would-be teacher trainers.[2]

B. Peer Training

The framework for this training scheme can best be illustrated by describing the experiences of the Science Education Project and the DEC-UP Drug Education Program. Peer training is not yet widely used in the country, and it is likely that only these two programs so far have implemented this particular training strategy.

SEPP – One of the projects undertaken by the Science Education Center (SEC) is the Science Education Project of the Philippines (SEPP), which has teacher education for one of its components. In carrying out its teacher education program, the SEPP uses a three-stage process, referred to as the T_1, T_2, and T_3 phases.

The T_1 phase involves the participation of about 27 teacher training institutions located outside Metropolitan Manila and selected through a nationwide survey. Chosen participants, supported by scholarships from the National Science Development Board (NSDB) and UNICEF, go through an 18-month teacher education program at the University of the Philippines.

The T_2 phase is implemented at the provincial level, with the training taking place at the Regional Science Teaching Centers (RSTCs). After completion of the 18-month program, the T_1 participants conduct six-week summer institutes for teachers in their respective regions. These institutes perform a double function: they give the T_1 participants some experience in handling the new curriculum materials, while training them (as T_2 teachers) in new developments in science education.

Actual field conditions in the schools comprise the T_3 phase. Participants in the T_2 program return to their respective schools and hold two-or three-day seminar workshops for the other teachers, orienting them to the new materials and the corresponding teaching methods. Assisting them in these activities are the T_1 participants, who now make up part of the RSTC staff. In addition to this function, the RSTC's handle conferences for principals and supervisors/head teachers of the schools whose teachers participated in the summer institutes. The conferences serve as an orientation program for administrators and a channel through which their role in the implementation of the new science program can be given emphasis.

DEC-UP Program – Another variation of peer training is the scheme adopted by the DEC-UP Drug Education Program. A five-year undertaking, this project also provides teacher training to ensure that the new curriculum materials, specifically developed for drug education, will be effectively used and properly integrated in appropriate elementary and secondary school subjects.

The training strategy consists of four levels, starting with a three-day orientation seminar for school superintendents. This first level of the program serves not only to orient administrators on the drug abuse problem, but also to directly involve them in program implementation.

School division trainers, selected by the trained school superintendents, comprise the audience for the Level II training sessions. The number of participants from any region varies according to the gravity of its drug abuse problem. A division team, however, is ordinarily composed of a health education supervisor, a social studies supervisor, two demonstration teachers – one for the elementary grades and another for the secondary level – and a school physician.

The trainees at these two levels then form planning committees whose members handle training for key teachers in every division until each school has at least one teacher trained in the program. This five-day training phase (level III) is conducted for 60 participants at a time, with 40 of each group coming from elementary schools and the rest from high schools.

The trainees at the third level in turn organize training programs for elementary and secondary school teachers (Level IV). While all elementary teachers are expected to participate in the five-day seminars, only those high school teachers involved in health education, physical education and other related subjects are encouraged to attend. The division team of trainers acts as consultants for this fourth level, particularly with regard to evaluation activities of the program.

In this training strategy, the teacher is not merely a trainee, after having undergone training, he acts as a trainer in turn for his peers who have not yet been trained.

C. Modular Training

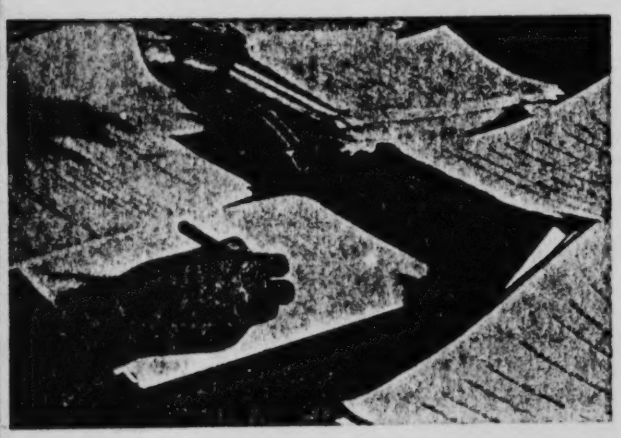
1. *Characteristics*

A module has several characteristics that distinguish it as a unique form of instructional method. First, the module is a set of instructional materials that focuses on a single, well-defined topic. This is presented in a format which contains the basic elements of instruction: objectives, learning activities and evaluation. Although it ordinarily comes in written form, the module may also be supplemented by other media, such as video-tapes, films and some other learning aids. It can be taken single or, if part of a cluster, in combination with other modules, according to the varied needs and interests of users.

The module, moreover, is flexible and adaptable. Though prepared primarily for

independent study, it may also prescribe group activities. Modules prepared for group activity serve to develop person-to-person skills, such as communication, discussion, planning and group dynamics.

The modular approach requires a minimal degree of supervision. The instructor or trainer still plays a part in the teaching-learning process, but his role takes on another dimension. In this student-centered format of learning, the teacher becomes primarily a guide in the instructional process, assisting the trainee in performing the varied activities proposed in the module, or lending a hand if difficulties in comprehending the materials are encountered. The instructor performs the additional functions of organizing discussion groups wherever the need arises and making available to trainees the learning aids that are suggested in the module. He is further expected to aid the trainees in properly using pre- and post-assessment tests, and subsequently to guide them to the next activity that follows completion of the test.



2. *Elements of a Module*

A typical module contains the following essential features: 1) an introduction and pre-assessment; 2) module activities; 3) post-assessment; and 4) answers to the test.

The introduction gives instructions for the use of the module and a brief overview of its contents. Module objectives, expressed in specific behavioral outcomes, are also stated in this section. These may deal with the affective dimension, focusing on attitudes and values, as well as with cognitive and skill goals. Alternative or exploratory objectives can also be included, to make the module more flexible in terms of the materials to be used for study and the learning methods and procedures. Finally, the introduction provides a pre-assessment test to determine the extent of the knowledge, attitude and skill (KAS) of the trainee on the subject matter. Ideally, this section should thus give an indication of the degree of KAS required for accomplishing the module objectives, and how to acquire these if the trainee finds himself wanting in these areas.

Module activities, or *enabling activities* as they are technically called, comprise the second essential element of a module. These are specifically organized according to the particular objectives of the module. Module ac-

tivities commonly constitute studying the materials provided for, doing practical exercises and problem-solving, participating in group activities or demonstrating the use of teaching techniques. This section may also entail the use of such learning resources as films, tapes, slides, experiments, demonstrations, interviews, surveys and field trips. Usually included in this portion of the module is a list of materials that may be needed by a trainee.

The post-assessment, another salient feature of the module, may be either objective or subjective, depending on the nature of the module objectives. If the objectives, for instance, principally emphasize the affective area (attitude, values, feelings), then these will be assessed rather subjectively by the trainee. The pre-assessment measures are usually used for post-assessment purposes as well. The pre-assessment serves as a gauge of the trainee's knowledge of the module contents, determing whether or not he should proceed with the module; the post-assessment shows the extent to which he has attained the objectives of the module.

Following the post-assessment is the section that provides for the list of correct answers to the tests, against which the trainee can check the accuracy of his own responses. This is usually included as an appendix to the module.

Feedback is necessary for improvement and redesign of the module. Two component is provided for through the inclusion of criteria for evaluation. A module usually undergoes several pre-tests and revisions before it is finally circulated for use.

3. *Rationale Behind Module Development*

In defining the rationale behind module development, a regional workshop on teacher education and curriculum for development held last year at the UP College of Education recommended that "the basic principles of programmed instruction, such as the gradation of subject matter, drill in skills, etc., be considered in the preparation of modules."[3]

Programmed learning, which can be conducted through a printed test or with the aid of a teaching machine, constitutes another form of self-instruction. Basic to the concept of programmed instruction is *reinforcement theory*, a greatly popular school of thought in the field of psychology. After several years of research in behavioral conditioning, B. F. Skinner, the main proponent of this theory, concluded that an organism's behavior can be generally shaped to the desired end through the technique of reinforcement. This concept forms the framework for the learning process of self-instruction, by using *knowledge of results* to lead the learner from one section of the module to the next. "Reinforcement theory provides a rationale for believing that a complex body of learning can be separated into its smallest components."[4]

Materials are programmed or arranged in a series of successive frames that lead the student from a body of known principles to the unknown, from simple to more complex matter within the same content area. At each stage of the learning process, the trainee receives reinforcement through knowledge of results. Giving the accurate responses means proceeding to the next step. The trainee eventually masters the whole subject matter at the pace set by the accuracy of his own responses. Within the framework of programmed learning, reinforcement, besides shaping the trainee's behavior, also increases learning motivation.[5] The immediate feedback on one's answer heightens the trainee's awareness and draws him to a greater involvement in the learning activity.

Programmed instruction and modules have several elements in common. As in the module, the self-instruction units in programmed learning contain objectives that are expressed in definite behavioral terms. These objectives are drawn from the performance criteria of the content of the unit covered. They describe for the student what he is expected to be able to do, and, consequently, how he will be evaluated after completion of the unit. Secondly, the information is so structured that it supports each of the objectives. This component is called the *practice cycle,* capped by an exercise in which the student is directed to practice his mastery of the subject matter. The end of the exercise gives the correct responses, with which the trainee can compare his own answers.

After the whole unit has been completed, the trainee is made to take a post-test. This section determines whether the student has mastered all of the objectives of the unit. Aside from this, the post-test results are also used, together with other student data, to revise the unit. The changes done in a unit eventually provide for better learning among a greater number of students. Programmed learning units are revised until 90 percent or more of the participants using the materials achieve at least 90 percent of the objectives.[6]

4. *Module Use in Teacher Education Programs*

The present pattern in American teacher education programs reveals an increasing utilization of modules and self-instruction in the curriculum. The Stanford Evaluation of nine elementary teacher training models, for instance, has praised the similar efforts of these programs to replace the traditional course with modular structures as the learning unit.[7] The present concern of these programs for performance and competence as teacher criteria has brought the use of the module to the force. And while these innovative programs use different names, such as Wilkits, Unipacs, PM, etc., they all usually employ one or more of the variant forms of the self-instructional module.

Emphasizing teacher performance behavior, the Georgia Elementary Education Model specifies the use of the proficiency module (PM), developed as the main instrument for the presentation of learning activities and instructional materials. The PM guides the student through group interaction and independent study toward the acquisition of particular cognitive, affective and psychomotor learnings.

In the Behavioral Science Elementary Teacher Education Program proposed by the Michigan State University, the module also plays a major role. The modular approach is adopted to provide greater flexibility in the program and an improved learning experience for the student teacher.

The performance-based teacher education program of the Southwest Minnesota College has organized its curriculum into competency learning packages (COMPACS). At the College of Education of the University of Houston, the learning module has similarly become the main instructional unit. Other teacher training programs are replete with specifications for use of the module approach.

5. *Modules in the Third World*

Self-instructional learning has not bypassed the Third World. In fact, as some Western educators are currently pointing out, the potentials for programmed learning (PL) in the developing nations are infinitely more far-reaching than in any other place.

Wilbur Schramm, in an evaluation of the future implications of this new method of learning, has cited the Third World as the area where programmed learning is going to have its greatest impact because of what he calls the "educational explosion" in these countries, in terms of the fast-increasing number of school-age children. A more important factor, that he considers however, is the social and economic development that these nations are presently undergoing, which creates the accompanying need for massive education of the populace. In this context, PL can play a key role in the formal education of the people as well as the teaching of new practices and occupational and mechanical skills needed in the development programs of these countries.[8]

Not surprisingly, programmed learning vis-a-vis teacher training is already being gradually applied in some Third World countries. In Jordan, a workshop on PL, conducted by the UNESCO, resulted in a proposal to establish an in-service training institute where PL will be one of the educational techniques to be used and developed. PL is also being considered as an aid in solving Jordan's enormous teacher training problem. An estimated 76 per cent of the teachers have not been trained, while only around three percent are college graduates. Since it is not possible to take large numbers of these teachers from their schools, it is expected that PL will be utilized, together with other teaching techniques.

Schools of education in Pakistan have also looked into the feasibility of using PL for in-service training. The country's Educational Extension Center has already experimentally adopted programmed lessons for teachers undergoing in-service training.[9]

In the Philippines, the utilization of modules for teacher training is currently being pilot-tested in a joint undertaking of the Population Education Program and the East-West Communications Institute. The modular approach is expected to read the 35 percent of all elementary teachers, and the 80 percent of high school teachers, who were not originally targeted by the supervisory training teams of the Population Education Program training program in population education. The pilot project, which includes the development and field-testing of modules to be used, will test three management procedures in module utilization: 1) independent self-study; 2) use of the trained principal as module moderator; and 3) trained supervisor as module moderator. In the first type, modular learning will be directly managed by the classroom teacher, while in the last two, school administrators will be involved to guide the teachers in the use of the modules.

A regional workshop on teacher education and curriculum development, participated in by some 15 Asian countries, was held last year The conference was jointly sponsored by the

Asian Center of Educational Innovation for Development (ACEID) and the UP College of Education. One of its purposes was the consideration of a modular approach for teacher education. The report cites the module as an effective and economical way of bringing about learning and developing skills. The workshop resulted, among other things, in the preparation of guidelines for curriculum designers in developing modules and other selected elements of the core curriculum of teacher education.

6. *Module Use in Training Programs*

To describe the modular approach in teacher training, the third phase of Project IN-STEP – an acronym for Individualized In-Service Teacher Education Program – can be taken as a case in point. Undertaken by the County Board of Public Instruction in Florida, this third stage, involving 85 teachers, was conducted to determine whether the model used in Project In-Step was also applicable to areas other than training teachers to teach elementary science.

The method employed in the project was an individualized multimedia approach. Individualized instruction first entailed pre-assessment of the existing knowledge and skills of the trainees before they engage in the various modules.

Subsequently, the first stage of the training session involved a three-hour instructional module that covered the introduction and Part of the module was a 25-minute viewing of a live television overview of Phase Three. A series of learning modules constituted the rest of the session.

Following the introductory module, the participants took the first option test. Successful completion of this allowed one to move on to the next module. Those who did not do too well were directed to work on a self-study programmed text for that particular module, after which another performance test was taken. If test results now indicated mastery of the subject, then the participant proceeded to the next module. If, however, the participant still did poorly, he was made to attend a two- to three-hour television workshop where video tapes were reviewed. After the workshop, the participant had to take another (the third) performance test for this particular module. If results were still lower than the desired level, the participant was given an individual conference with the instructor before undergoing another test.

This process of having the participants pass through the different modules was found by the project staff to be fairly easy to administer. It also entailed a minimum of logistical problems.

As shown by this program study, the modular approach is adaptable. A module is not limited to only one kind of learning activity. In the teacher education program of the California School of Education, the learning modules used provide three or more optional activities which are designed to facilitate mastery of the subject and include selected additional resource materials. The learning options may take the form of film or videotape viewing, participation on in tutoring, or involvement in small o

large group sessions. Based on individual needs, these activities are done voluntarily. The modular learning experience thus also provides for variation through different learning styles.

D. Effectiveness of Schemes

1. *Studies Reviewed*

The literature shows a scarcity of studies comparing the effectiveness of these three cited strategies in teacher training. Except for the modular approach, whose effectiveness has been experimentally tested against traditional methods of instruction, these strategies have mainly been studied in connection with evaluations of particular teacher training programs. No one study, for instance, has investigated which of these three training models can bring about the greatest change in teacher knowledge, attitude and behavior, or has shed light on the relationship between the type of training method used and the type of learner. In fact, it seems that very few efforts have been made to determine the types of in-service or teacher education programs that would be most beneficial to teachers in their classroom teaching.[10]

This literature review will thus be limited to the findings of studies evaluating the achievement of objectives of teacher training programs. In a few instances, the literature is a mere description of the process by which the training program is conducted. Such studies are included in this review because several factors are taken into account which are pertinent to a discussion of the feasibility of the training programs.

Although the programs reviewed all focus on teacher training, their project rationale and objectives often differ. Thus, evaluation reports cover a wide range of areas that seldom converge on the same variables. While one program assessment measures changes in trainees' knowledge or attitude, others emphasize the conduct of the training process or particular training components that are deemed essential to the overall success of the program. The pattern in the following program evaluations, however, indicates certain variables that are common to the training models, a discussion of which may help to shed light on the feasibility of the strategies as a whole.

2. *Evaluation Criteria*

The assessments of the impact of training programs are generally directed to the following areas: 1) changes in trainees' effectiveness in class; 2) changes in knowledge, attitude or skill (KAS) of participants; 3) trainees' reaction to the program as a whole, or what they think they have learned.[11]

Assessing a change in the behavior of participants and comparing this to the behavior of a group that did not participate is considered one of the most valid ways of evaluating an educational program. In practice, however, accurate methods of measuring appropriate behaviors are difficult to find. In addition, there are many intervening variables that tend to complicate the analysis of comparative studies.[12]

The knowledge, attitudes and skills of participants can be measured before and after a training program to see if they improve. An increase in knowledge, though, does not necessarily mean that there has been learning, if learning is taken to mean a change in behavior.[13] Somehow, the changes in KAS have to be related to on-going behavior.

The participants' reactions to the program serve as a useful source of information on the impact of an instructional program. While participants may not always be objective about what they learned, their responses often describe their level of satisfaction with the educational experience. However, there is not necessarily any relationship between satisfaction and learning.[14] The many hours one spends in attending a training program, for instance, may be a sufficient reason for feeling that something has been learned.

Although these are not the only criteria for judging the effectiveness of a training program, these are regarded as the more important measurable factors. However, a discussion, of other training components, like management and the conduct of training, would contribute to the overall assessment of the viability of a training strategy. Since the review of literature does not include studies on such factors, these will be discussed as they were actualized or implied in the training programs reviewed.

The conference participants also discussed other factors that may affect the degree of acceptance or rejection of any one scheme.

With regard to the modular approach, there are certain variables that may influence the case of its local adoption. The learning process in modular instruction, for instance, is highly impersonal, which quite contradicts the warm and personable nature of the Filipino. How will this impersonal method of instruction affect the Filipino teacher's acquisition of knowledge, attitudes and skills in population education?

In addition, the underlying assumptions for modular use are the more Western traits of self-independence, openness and strong motivation. There is no lack of these traits in the Filipino, particularly in these modern and changing times. But compared to his Western counterpart, the Filipino is still considered less self-independent. This is true particularly for the rural Filipino who still values close kinship and family ties. Would modular instruction then be suitable to the Philippine cultural milieu? Can the Filipino effectively undertake his own learning through independent study?

Some of these questions might also be raised with regard to peer training. The nature of our educational system is considered greatly authoritarian, and in this set-up the status of the peer seems to hold little value. Would peer instruction then be effective for teacher training in population education?

In a nationwide survey of the information flow among high school teachers, jointly conducted by the Information Division of the Population Center Foundation and the Fund for Assistance to Private Education, findings showed that seminars were rated higher than peers as information sources. Seminars ordinarily make use of workshops or training courses where school administrators update teachers on new topics and teaching skills relevant to the subjects they teach. Thus, in a sense, the survey results support the view that the Filipino teacher is still more dependent on his superior than on his peer for new information or in the adoption of innovations. The peer still lacks authority where his colleagues are concerned. How then would the degree of teacher dependence on superiors affect the viability of peer training, or, for that matter, modular training?

The superordinate scheme thus seems to be the most immediately suitable to the present hierarchical nature and structure of the country's educational system. No adoptations have to be made by this particular scheme to be utilized in a teacher training program. But is this strategy *effective* in meeting teacher training needs?

COMPARATIVE ANALYSIS
OF TEACHER
TRAINING SCHEMES

SUPERORDINATE TRAINING

A. Effectiveness of the Scheme

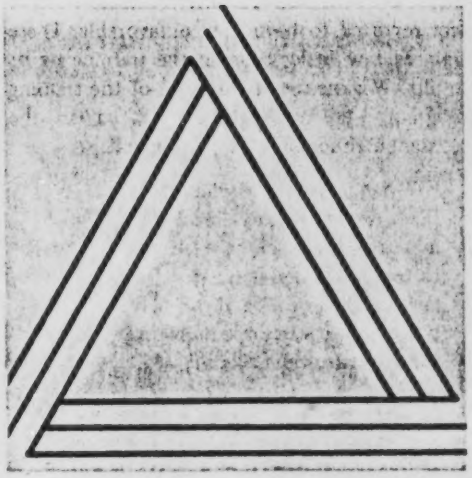
Studies indicate that while the superordinate scheme facilitates gain in knowledge and improvement in behavior and skills, positive change in attitude is not equally achieved.

Studies Designed

Changes in knowledge, behavior and skills were found to have been effected in the participants of the programs that measured these variables. The programs of CERLI *(See Tabular Summary I p. 40) which trained selected teachers to become specialists in continuing education for Chicago public schools, achieved substantial gains in the trainees' knowledge and skills. Of the skills taught the trainees – operationally defining goals, utilizing various resources, and data skills –only data skills were found not to have significantly improved.

The San Francisco project under (STEP-TTT)** project (See Tabular Summary I, p.41) which involved the preparation of teachers to use the TABA curriculum in social studies, reported positive behavioral changes in its participants. Where participants' reactions to the program were measured, moreover, findings showed that these were generally favorable.

The MAN project at Central State Connecticut College, (See Tabular Summary I p. 40) similarly involving teacher training in the use of methodology of MAN: a course of Study; Teacher Training and Dissemination



cited program success vis-a-vis needs and expectations. Participants, who included both pre-service and in-service teacher trainees, found the program successful in adequately preparing them in the subjects they would subsequently teach.

However, positive changes in the affective dimension seem not to have been equally effected by these programs. In the CERLI programs, an attitudinal survey attempted to assess attitudes toward educational phenomena, the change process, and evaluation and use of objective data in decision-making. Attitude changes had occured in the hypothesized direction, but none were statistically significant. Moreover, there was no appreciable change in the characteristics considered desirable traits in the specialist for continuing education, the purpose for which the participants were trained. The desired level of self-confidence and competition, degree of orientation toward groups, level of procrastinating tendencies, and attitude toward educational change were not affected in the trainees.

*Cooperative Educational Research Laboratory, Inc.

**San Francisco State College and San Francisco United School District Teacher Education Programs (STEP)-Trainers of Teacher Trainers (TTT).

In the STEP project, on the other hand, attitudes shown by some of the T-level participants (First-year Teacher-Trainees) were in fact reported to have been unfavorable. These trainees saw little value in the training or its results. Weaknesses at this level of the training program were subsequently traced to the resistant attitude of these participants.

The superordinate scheme tends to foster greater involvement from the various levels of the educational system. It requires closer interaction and cooperation between educational administrators and school teachers.

All the program evaluations reported a certain amount of program success in this respect. The MAN and STEP projects generated greater involvement from the educational sectors affected, even in areas beyond the program. The former resulted in the institutionalization of the MAN curriculum into undergraduate and graduate teacher education courses. On the other hand, greater involvement of the STEP staff members was sought in district and college affairs, and more importantly, a large number of educators expressed interest in knowing more about the program and in seeking the staff's services for conferences or workshops.

The TTT program Lansing school district of the Michigan State University, (Please see Tabular Summary 1 p. 42) meanwhile, also satisfactorily achieved the objectives it set for its first year of implementation. A closer interaction and professional cooperation was entered between the educational administrators of the university and the school district concerned, even after the program had ended.

Another form of program achievement was reported in a new language curriculum project carried out by the Baltimore County schools. As a result of this program, the participants involved themselves in other related projects – the production of curriculum guides and special work on the language problem.

Conference Reactions and Recommendations

Confirming these research findings, many of the population education (POPED) professionals at the conference bewailed the lack of participation of teachers and other groups who should be actively involved in the PEP teacher training program in population education.

For instance, a large number of the practitioners and administrators observed that the remaining untrained teachers feel discriminated against. The overriding issue, it seems, is the matter of stipends: these teachers object to being sent for training now that there are no more stipends.

Among teachers outside the five subject areas specified by the program, the group of district supervisors similarly observed a lack of interest in the program (i.e. teachers, arts and music teachers, librarians, industrial and agricultural teachers). Many in the group asked what is expected of these teachers after undergoing training, considering that the present policy seeks integration only in the five subject areas. Some thus felt that population education could also be correlated with these teachers' subjects.

The district supervisors and some principals further raised the problem of the lack of involvement of private schools. The PEP teacher

training program also provides for training of private school teachers, but it has been observed that these teachers rarely attend the training sessions. If they ever do, they attend only for two or three days, seldom finishing the whole program. Some participants traced this to the inadequacy or absence of incentives, or the lack of substitutes for these private school teachers.

Some superintendents, for their part, drew attention to groups other than classroom teachers. They felt that population education should be extended to out-of-school youth, 49% of whom are in the 12-20 age range. They also remarked that not much is being done to enjoin top-level administrators or pre-service teachers to get involved in the population education program.

The researchers and policy makers agreed with this latter observation, declaring that the administrators' attitudes toward population education is a crucial factor in its adoption and support implementation, especially in institutions of higher learning. They noted that, at this stage, there is a misconception, even among university and college administrators, of the rationale and goals of the program. Population education is often misconstrued by them as simply family planning and population control.

To bring more active participation in the program from these groups, the population education professionals raised the following recommendations:

1. If stipends cannot be continued, service credits should be given instead.
2. All superintendents, presidents of state colleges and heads of private schools should be oriented on the goals and needs of the population education program. The orientation should be properly designed and planned to suit the particular needs and interests of this group.
3. Population education should be a required course for graduation in teacher education colleges.

On the extension of population education to out-of-school youth, they had these proposals:

1. The program should coordinate with the Department of Local Government and Community Development on the feasibility of giving training to barangay officials.
2. Administrators in adult community education should be directly involved in these training programs.

B. Conditions for Viability

There are various other factors that serve as an index to the viability of the superordinate training strategy.

> The effectiveness of the superordinate-subordinate scheme depends to some extent on the competence of teacher trainers.

They should have high academic status and should be the potential change agents in their departments. In addition, they should be highly skilled and credible. To ensure these, trainers should be selected by a team of superiors, peers and even parents. Since the training process starts from this group, it is clear that the key personnel chosen for this function must be highly capable and qualified.

Studies Reviewed

In the programs conducted for teacher trainers, emphasis was focused on the rigid qualifications required of its core group. The participants who underwent in-service development in the TTT projects e.g. (The STEP project in San Francisco and the Lansing, Michigan project) were selected on the basis of their competence as scholars and their potential as agents of change in their own departments. In the In-Class In-service Teacher Training for Open Education at the University of Illinois. (See Tabular Summary I, p.42) trainees were chosen by a committee of administrators, teachers and parents from each school concerned. The CERLI training staff required from its participants, who would be trained as in-service leaders, a high rating by their immediate principal or supervisor.

The qualification of expertise is even more important for the resource persons needed to update the group of teacher trainers. In the STEP project, TTT trainers had either worked with Dr. Taba herself (whose curriculum for social studies was the one used in the project) or had undergone four full weeks of training to be able to handle in-service training. This aspect of the program was subsequently assessed as a major strength of the project.

The TTT program of the Lansing School District, Michigan State University on the other hand, had the directors of teaching institutes as the leaders of the clinic teams which served as the vehicle for training. Similar qualifications characterized the resource persons involved in the MAN program, which had as one of its objectives the implementation of the new social studies curriculum. Included in the line-up were the director of the Center for the Improvement of Instruction in Elementary Social Studies, an eminent anthropologist who specialized in social studies methodology, and two teachers who had prior MAN experience.

The competence of the trainer is thus a crucial component of the superordinate strategy. This is one way by which the classroom teacher at the bottom of the training hierarchy is assured of quality training. Moreover, this helps in building a strong foundation for the relationship between trainer and trainee.

The Open Education program in Illinois specifically points out that a trainer needs to be skilled and competent to be able to handle the training and to be credible. The assessment particularly stressed the need for the development of trust and credibility as a basis for a fruitful relationship. Without credibility, trust is wanting, and a breakdown in communication between trainer and trainee may result. Citing this need, the STEP project likewise underscored the helpfulness and availability of highly qualified instructors during the training program.

Conference Reactions and Recommendations

The practitioners, administrators, researchers and policymakers were in accord that trainer competence greatly contributes to the overall effectiveness of superordinate training. Many observed, however, that in the present population training program, some trainees lack training skills and competence in certain areas of population education, while others are uncommitted to the program cause of institutionalizing population education.

The practitioners and administrators traced this problem to the inadequacy of the training given to teacher-trainers and the lack of criteria for trainer selection. With regard to the first, most of them doubted the effectivity of the

five-day training or the three-day re-orientation under the revised scheme in producing competent and involved trainers out of administrators designated to train. The period of training was considered too brief; under the old scheme, the STTs who served as the primary teacher-trainers underwent only a five-week training course.

The lack of a rigid selection process was also seen as a contributing factor in the problem of trainer competence. Department Order 144 requires all district supervisors, principals and department heads to assume the function of teacher-trainers. While all administrators should be trained, the 2nd-level conference participants strongly felt that only the competent and committed among them should become trainers. Some superintendents subsequently proposed that they be given the option to choose the trainers since they are in a position to know who are best suited for the task.

These participants further observed that even the original scheme suffered from this defect. The selection of STTs was based merely on one's position, as laid down by a department memorandum designating who should be sent for the STT training. This gave little room for choosing only the competent ones. A few superintendents felt, however, that STTs were generally competent, their rank as supervisors being considered enough qualification for the job.

In the area of pre-service teacher education, the researchers and policymakers similarly brought up the lack of qualified and competent instructors in population education. They believed that before pre-service teachers can be expected to develop positive values and the skills to teach population education, they themselves should first acquire expertise in this field and undergo favorable attitudinal change in population-related matters. Population education, moreover, is now a requirement for graduation on the tertiary level, regardless of area of specialization. Nevertheless, the researchers and policymakers observed, a great number of college instructors have not received any basic training in population education.

To solve the problem of trainer competence, the population education professionals recommended the following:

1. There should be *special training* for trainers to update their knowledge in all population education areas and to improve their training skills.
2. Trainers should have longer training or orientation with more demonstration lessons, readings and use of the *team approach* to teacher training.
3. Resource persons should be used as lecturers for topics that the trainer may feel inadequate to handle.
4. Guidelines should be involved for screening and selecting trainers in the revised scheme.
5. There should be a *formal system of evaluating* trainers. The results of the evaluation should be fed back to both trainers and trainees.
6. Mobile training teams should be formed.
   a. The mobile teams should be selected from the group of principals and teachers, with STTs serving as consultants.
   b. Trained administrators who have shown exceptional interest and enthusiasm towards the program should compose the mobile teams.

For pre-service teacher education, the researchers and policymakers gave these proposals:

1. Previously-trained college instructors should be re-oriented.
2. The Population Education Program training program for college instructors should be expanded to cover those who have not been trained. Colleges and institutions, assisted by Population Education Program, should carry out short-term training programs for their instructors handling population education.
3. Universities and colleges should make available a course in population education to masteral students.
4. There should be faculty development in population education at the masteral level for educators of teacher training colleges and institutions.
5. Educational institutions offering population education as an area of specialization in the undergraduate program should be supported in terms of library development assistance and scholarships. The program should have at least 18 units of population education.
6. With regard to the last two proposals, a linkage should be established with agencies undertaking similar or supportive projects in these areas.
   a. A program of the Project Development Division of the Population Center Foundation hopes to establish regional faculty and student training centers in existing institutions that have set up potent population programs. Instructors can be sent to these centers where they will undertake some 12 units of work in population education.
   b. The aid and support of the Commission on Population (Popcom) can be tapped for the following ways:
      1. Persons who have been supported through scholarships by Popcom, and who now have attained expertise in population-related matters, should be utilized as resource persons in teacher education institutions.
      2. Scholarships offered by Popcom can be tapped for teacher educators who will undertake further studies in population education.
      6. Colleges and universities should establish linkages with the communities where they are located by providing population education training to community workers of population agencies.

C. Staff Need

The effectiveness of the superordinate-subordinate scheme depends to some extent on a large training staff because of the various levels of training required at each stage of the educational hierarchy.

The STEP and MAN programs, which are more comprehensive because they include both pre-service and in-service training, particularly indicated this need. Both projects involve four groups of participants which must be trained separately.

In the STEP project, the 1st level constitutes the training of college instructors and demonstration supervisors (referred to as TTTs or trainees of teacher trainers) by the veteran staff members of STEP. The trained TTT members

then conduct training for the supervising classroom teachers, considered the TT (second) level. First-year teachers, belonging to the T group, are trained by the TTT staff, while the 4th (TC) level, composed of pre-service teachers, are trained by both the TT and TTT members.

In the MAN program, the program director and his staff conduct separate training programs for two groups: a) members of the regional centers for special studies; and b) pre-service teachers and graduate students, who may also be in-service teachers. Constituting a third training level is the summer institute, which is held for selected master teachers. The director, a specialist in social studies methodology, and two teachers with prior MAN experience serve as the training team. Finally, the in-service teachers are then trained by the summer institute participants.

In the in-service training program of the Baltimore County schools, (See Tabular Summary I, p. 43) there are three groups of trainers. These are college consultants, who train administrators; vice-principals in curriculum activities, for teachers; and long-range consultants for the advanced courses.

In all three programs, the training process is made the responsibility of a group of key personnel at each stage. This condition enlarges the effective member of training staff, because the central core, which initiates the training process by teaching the teacher trainers, is not by itself considered as the whole training staff. *All* the trainers down the line who contribute to the final training of the classroom teacher constitutes the training body.

Conference Reactions and Recommendations

Confirming the need for a large number of trainers in superordinate training, many of the conference participants noted that the Population Education Program teacher training program cannot continue at a smooth pace if the STTs, who constitute the main foundation for training, are inadequate in number. One teacher claimed that there was only one team performing training functions in his division. In some areas, there are in fact none because supervisors have been transferred or promoted.

It is precisely this lack of STTs in the PEP program that most of the teachers and division supervisors traced as the major cause of the slackened pace of teacher training. Although the total number of STTs that have been trained add up to 410, only 197 are presently still involved in the program, due to promotions, transfers or retirements. With only 197 teams to conduct one-week training for some hundreds of thousands of teachers, the rate of teacher training will consequently be reduced. The district supervisors added that the size of the individual training staff is too small. A team of two trainers was deemed inadequate to handle training for some 50 trainees over the whole five-day training period.

The practitioner group thus agreed that the superordinate scheme, as originally used in the PEP program, would not be able to reach the set training goals to the five-year teacher training program. They felt that its continued use would impede the progress of teacher training. As one division supervisor put it; how can two-third of the targeted number of teachers be trained in the remaining year's time when in the past 4 years, only one-third of this number has already been reached? But this issue, was considered most and academic by the administrators in view of the present adoption of the revised training strategy.

To accelerate the pace of teacher training, the teachers and division supervisors thus proposed the use of a combination of the three training schemes: superordinate, peer and modular. As a whole, however, the conference participants recommended that STTs who have been promoted within the system should be allowed to continue to train. They further proposed that the training staff should not be limited to only two members.

D. Program Coordination

Because the training at different levels demands interdependence within and between the levels and among agencies, the effectiveness of the superordinate scheme depends to some extent on proper coordination and support of the various sectors of the educational system. A breakdown in this coordination can create a chain disturbances in all levels of the structure.

Studies Reviewed

The programs reviewed are replete with instances of the combined endeavor among universities, colleges, regional centers and school districts in implementing the program. The TTT project, which provides training only for trainers of teacher trainers, is already a unified undertaking of the Michigan State University and the Lansing school district. Professional cooperation among the university departments, the university and school district, and the educational administration had to be established for smooth program operation.

The MAN, STEP and Open Education (See Tabular Summary I) programs similarly enlist the cooperation of several agencies in conducting the training process. The MAN project had for its participating agencies the regional centers for social studies and the schools involved in the MAN program. STEP was a combined teacher education endeavor of the San Francisco State College and the San Francisco Unified School District. In the Open Education program, schools whose teachers were interested in adopting open education worked hand in hand with the staff of the University of Illinois.

Good program coordination is thus another necessity in the superordinate training scheme. The indirect training of the classroom teachers calls for the unrestricted flow of the training process through the different stages. As implied in some of the program assessments, the superordinate structure necessitates tight management of the conduct of the training process. A lack of coordination of activities, pinpointed in the T phase of the STEP project, was analyzed as a weak point in the program. Although one defective spot does not necessarily mean overall program weakness, it does contribute to lower program effectiveness.

While the interdependence of levels and educational organizations does make for a unified program framework, it can also give rigidity to the structure. A problem that arises in any one level would subsequently affect the rest of the program constituents. In the TTT stage of the STEP program, crises occurring in the college, community and district areas affected the program as a whole and were consequently regarded as a program weakness.

This problem of rigidity may also arise within the individual levels themselves. In the TC stage of the same project, breakdown in communications between the staff and trainees at each level was evaluated by the latter as a weak

point in the training.

Conference Reactions and Recommendations

From their own experience and knowledge of actual training conditions, practitioners and administrators confirmed some difficulties in program coordination under superordinate training. They cited several problems as barriers to the smooth and easy management of the population education program teacher training program on the local level.

E. Training Overload

To both practitioners and administrators, training overload posed the biggest difficulty in running the training programs for teachers.

Seminars on the various subject areas and training in other educational programs create scheduling problems for both trainer and teachers. Population education competes with other new concerns, like nutrition, conservation, green revolution, etc., not to mention innovative programs in the regular subject areas. This often upsets the schedule of population education training because teachers or trainers are also called upon to attend seminars in other subject areas.

The proliferation of such programs, moreover, has brought about work overload for both trainers and teachers. It is the teacher who, though already overburdened, assumes the primary task of implementing all these educational innovations in the classroom. The teachers claimed that the problem is compounded by the fact that each subject supervisor wants his own area emphasized. The trainers, on the other hand, have other functions and are expected to help run the other programs by virtue of their position.

The practitioners and administrators believed that such a situation jeopardizes the program. It decreases the effectiveness of the teacher in population education and may further delay teacher training.

Training overload, in turn, appears to have brought about scheduling problems. According to some teachers and superintendents this arises from the lack of coordination between the national and regional offices in scheduling seminars in the various subject areas. The district supervisors, on the other hand, saw this as indicative of poor management.

The scheduling problem extends to population education training itself. Some divisions or districts implement continuous training for five straight days, while others stagger training over 10 half-days. Some practitioners and superintendents favored uninterrupted teacher learning, claiming that in-depth training can better be achieved this way. Half-day training, on the other hand, was preferred by others in order not to prejudice for their own students' learning. The district supervisors and principals felt that either way could be adopted, depending on the set-up in the division, so long as the required training period is completed.

Whether in continuous or staggered training, a resultant problem, has been disruption of classes. The practitioners explained that the students affected are those whose teachers attend the training and those whose classrooms are used for the program. Both cases have triggered complaints from both parents and students alike. Some principals pointed out that, unlike urban schools which have assembly halls or gyms, barrio schools do not have enough classrooms. As a result, some pupils attend

classes only half-day so that teacher training can be held. The district supervisors claimed that in some localities, pupils are dismissed for a whole week when teachers attend the training.

To help ease training overload and scheduling problems on the local level, the practitioners, administrators, researchers and policymakers raised these proposals for policy and practice:

1. There should be a proper channeling of communications from the department to the regional offices so that additional programs proposed by the central office may be included in the regional schedule.
2. Division action programs should already contain the training schedule and the designation of participants.
3. Population education should be included in district and school in-service educational activities.
4. The prospective trainers under the revised scheme should be made to prepare, during orientation or training, the scheme or schedule they will undertake on the local level.
5. The choice of training pace, i.e. continous or staggered, should be made on a case-to-case basis.
6. There should be an integrated training program for all DEC projects, properly coordinated on the national and regional levels.
7. Population education should be conducted on Saturdays or during long vacations, where usual two-hour sessions per topic should be doubled into four hours.

F. Materials

The population education professionals also cited lack of materials, or the delay in their distribution, as another obstacle to smooth training operations.

Some of the teachers and division supervisors, in fact, remarked that target goals would have been successfully reached if training materials had reached the localities on time. One supervisor said that the delay of materials had halted training in her division. Others claimed that trainers had to buy or prepare instructional materials to use during the training sessions.

To the administrators' group, the problem appeared to be more of a lack of training materials and teaching guides. According to some principals, old teaching guides, some parts of which have already been revised, are still being used due to lack of new materials. The problem is serious, considering that only one set of guides is given to each school. How can one set suffice in cases where there are 8 to 10 teachers on one grade level alone?

The superintendents' group confirmed this problem, observing that necessary materials, even if sufficient, seldom arrived on time for the training. Some of them further cited the need for translating the population education materials into Pilipino in view of the bilingual policy.

On this issue, the only recommendation unanimously agreed upon by the conference participants was the establishment of resource material bureaus in the schools.

G. Length of Training

The overall effectiveness of the superordinate scheme also depends on the length of training time alloted for the program. Since the different levels of trainers and trainees are dependent on one another, training cannot occur simultaneously on all levels. Training must first be provided for the trainer core; after they have been adequately trained, they must plan and conduct the training of the teacher trainers, who will in turn prepare and handle training sessions for the classroom teachers. All this entails a relatively long period of time.

The STEP project entails 4 levels of training. At the primary stage, the STEP staff provides training for college instructors and demonstration supervisors who become the trainers for teacher trainers (TTT). These trained personnel subsequently administer separate training programs for supervising classroom teachers (TT level) and first year teachers (T phase). The members of the TTT and TT groups then jointly train pre-service teachers.

The MAN project also shows how the interdependence of the different levels of training affect the training time needed to reach program goals. Members of the regional centers for social studies are first trained to conduct the MAN curriculum after which together with the original training team, they handle summer institutes for selected master teachers. In-service teachers then undergo training under the charge of the summer institute participants while pre-service teachers train under the Director and his staff.

The Open Education project similarly consists of successive training sessions for the groups involved. Chosen school personnel initially enroll as doctoral fellows at the university. After finishing the program, they train, with the assistance of the university staff, school teachers who want to adopt open education in their classes.

Conference Reaction and Recommendations

The conference participants recognized the implications of the period of training for the overall effectiveness of the superordinate scheme, particularly in a nationwide undertaking such as the Population Education Program. At present a five-week period is devoted to the training of STTs, while only five days are given to the training of teachers. The training exposure of teachers was thus deemed insufficient to develop favorable attitudes and the needed teaching competencies.

Many of the population education professionals, particularly the teachers, strongly expressed the need to further increase the training time for teachers. They pointed out that the teacher should be given longer and more intensive training since it is she who is the primary implementor of population education. Some division and district supervisors, however, countered that the training is not intended to make specialists out of teachers, but simply to

encourage them to read up and develop their knowledge and skills on their own.

From their own field experiences, the teachers raised the point that although five days may be sufficient for learning population education content, the same period is inadequate for bringing about positive attitudinal change. One teacher in particular made the observation that there was no change in some teachers' attitudes after undergoing training. Others claimed that there were teachers who were not even sold to the idea of the program. Some subject supervisors, however, remarked that attitudes cannot be imposed and that attitudinal change will not occur in only a week's time, if at all.

Several factors were noted in connection with negative teacher attitude. Some principals traced this to the fact that teachers are not fully aware or informed about the program before undergoing training. The district supervisors claimed that there is poor motivation of trainees, while some superintendents cited the teachers' experiences during the training itself as another possible cause.

Some superintendents further observed that the general training design of the PEP program has not sufficiently produced desired behavioral changes in the teachers. They attributed this to the practice of discussing all possible subject matter within the training period. As a result, teachers derive superficial knowledge or develop negative attitudes if the seminars are poorly planned.

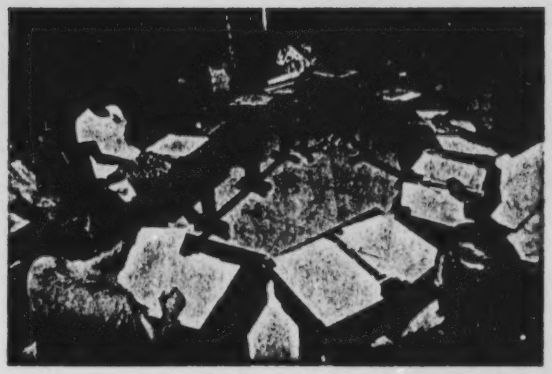
With regard to pre-service teacher education, the researchers and policymakers noted that the present three-unit population education course is likewise an inadequate preparation if student teachers are expected to teach population education later on. Pre-service education, according to them, should already lay the foundation for a good background knowledge, teaching competencies and skills, and favorable attitudes towards population education.

To counter unfavorable attitudes among in-service teachers, the practitioners, administrators, researchers and policymakers thus proposed that additional reading materials be given to teachers to fill up whatever inadequacy may be felt in certain areas. They further suggested lengthening the training period for teachers, with demonstration teaching to be given more emphasis than it presently receives.

The population education professionals further endorsed the following to upgrade pre-service teacher education in population education.

1. Aside from the single, required course in population education, population concepts should be integrated in general education courses. The DEC should organize a study group for this purpose. The group should be composed of educators who have had extensive field experience in this area.

2. The three-unit course should be improved to focus on content and methodology, stressing various approaches. It should also include value clarification and evaluation. Course content should have more:
   a. laboratory experiences;
   b. valuing or value-processing;
   c. decision-making and problem-oriented exercises;
   d. sessions on integration of population education into pertinent subject areas to develop teaching competencies.
3. Value clarification should be an integral part of the pre-service education of teachers.



Finally, with regard to the training design of the Population Education Program, they raised these proposals:

1. A research study should be conducted on the effectiveness of existing program content and strategies.
2. Evaluative schemes should be drawn up.
3. Periodic training should be conducted throughout the year in place of the five-day training period. Subject matter and activities should be distributed through the whole period of the periodic training. The peer and modular schemes can also be utilized for this periodic training of teachers.

Tabular Summary I

EVALUATIONS OF PROGRAMS USING THE SUPERORDINATE SCHEME

Training Program	Trainers and Trainees	Training Content	Program Evaluation	Remarks
1) Assessment of the CERLI Training Program, Spciaeist in Continuing Education for Chicago Public Schools Cooperative Educational Research Laboratory, Inc. (CERLI) *Feb. 10 - March 21, 1969*	CERLI training staff trained selected teachers	1) Sensitivity training 2) Group dynamics 3) Interaction analysis 4) Test construction 5) Instructional objectives	1) Increase in knowledge 2) No significant change in attitude 3) Increase in skills: a. Operationally defining goals b. Utilizing a Variety of resources c. But no significant increase in data skills	1) There was a gain in knowledge although mean scores were below possible optimal scores 2) Without follow-up data, program's long-ranging impact cannot be assessed
2) MAN: A Course of Study; Teacher Training and Dissemination Project. Central Connecticut State College, New Britain. *June 1969 - August 1970.*	Levels of participants: 1) Members of regional centers (social studies) were trained by the Director and his staff. 2) Selected master teachers were trained through a summer institute by a team composed of the Director, a specialist in social studies methodology, and two teachers with prior MAN experience. 3) In-service teachers were trained by summer intsitute participants 4) Pre-service teachers and graduate students who may also be inservice teachers were trained by the director and his staff	Preparation of staff to conduct MAN (new social studies curriculum) 1) Course familiarization 2) Laboratory experience with students 3) Preparation for Workshop leadership MAN curriculum and methodologies Elementary social studies methods	1) Institutionalization of MAN 2) Expansion of the course involving schools and universities 3) Success in meeting participants' needs 4) Participants' positive reaction to program: a. Program met their needs and expectations b. Adequate preparation in the subject to be taught	Summer institute cut down to a two-week session the following year to save on money, time and staff. Revisions adopted: 1) Use of teacher training films and video-tapes to replace summer observations 2) Micro-teaching and role-playing instead of on-going classes with pupils 3) Differentiated staff roles

3) **STEP-TTT** **San Francisco State College and San Francisco Unified School District Teacher Education Programs (STEP) — Trainers of Teacher Trainers (TTT)** ***September 1969 - August, 1970 (continuing program)***	Four lvels: 1) TTT: college instructors and demonstration supervisors — trained by veteran staff members of STEP 2) TT: supervising classroom teachers — trained by TTT members 3) T: first year teachers — trained by TTT staff 4) TC: pre-service teachers — trained by TT and TTT members	1) Supervision 2) Taba curriculum project in social studies Taba curriculum Taba curriculum Taba curriculum	1) behavioral changes 2) Impact of program on college level: a) Staff members' participation in district move to integrate schools b) Committee work undertaken by staff 3) On district level: a) Participation of STEP staff in school district's activities b) Close contact between universities and schools 4) On school level: a) Principals' request for assistance in workshop for teachers and parents 5) Beyond the project: a) Professional conferences b) Requests for information on STEP-TTT c) Participation in workshop activities based on active learning.	1) Much of TTT training effects are long-term. 2) Each level of participants evaluated their training, emphasizing major and weak points.

4) Trainers of Teachers of Teachers Lansing School District, Michigan State University, East Lansing. *September, 1969 - June, 1970.*	Professional fellows at MSU and their students were trained by directors of teaching institutions	Development of teacher-educator skills	Assessment of co-directors: 1) Project found successful in meeting first year's objectives 2) Program had structure 3) Program brought about a common concern and professional co-operation between university departments, the university and school district, and the educational administrations.
5) In-Class Teacher Training for Open Education. University of Illinois. *1970-71.*	1) Chosen school personnel enrolled as doctoral fellows at the University 2) School teachers interested in adopting open education were trained by the fellows, assisted by university staff.	1) Leadership training 2) Training in open education Curriculum topics and new skills in teaching these	Evaluation entailed discussion of relationship between the trainor and trainee: 1) Need for development of trust and credibility as basis for helping relationship 2) Trainer not often in control of situation because of non-coercive character of open education 3) Intrusion of local constraints like principal's influence in school 4) Skills and resources needed by trainers

5) **Cooperative Involvement of Administrator-Supervisor-Teacher is the "Right Mix" for In-service Training** **Baltimore County Schools.** ***(Training period not specified)***	**Trainees:** 1) Elementary school principals and vice-principals 2) School teachers Trainers: 1) College consultants as lecturers for administrators 2) Vice principals in curriculum activities as instructors for teachers 3) Long-range consultants as lecturers for the advanced courses	New language curriculum	Offshoots of program: 1) Administrative, supervisory and teaching personnel became available for special work in the language problem. 2) Program participants produced language guides.

PEER
TRAINING

A literature review of the peer model for teacher training reveals a dearth of materials on this topic. Although peer teaching is widely used in other areas, it appears not to have been extensively adopted for teacher training purposes. Or, if it is in fact being widely used in teacher education programs, there is very little that has been written about it.

The available literature consists mainly of descriptive program evaluations and reports of some research studies done in this area. Scarce as it is, the literature does not include specific teacher training programs in poped. However, the programs reviewed in the following section all use the peer training method, and these shall be discussed to determine the general effectivity of this strategy in teacher training.

A. Effectiveness of the Scheme

Participants who underwent peer training a) showed increase in knowledge; b) exhibited more favorable attitudes and greater concern for their own teaching, becoming more critical of their classroom work; and c) showed mixed results with regard to teaching skills: while some trainees significantly improved their teaching skills, others did not make positive gains in this area.

The program assessments show that the peer training strategy can be effectively used in the training of teachers. The viability of this training model is indicated by the positive aspects generally cited in the different program evaluations.

Gains in knowledge and changes in attitude and behavior are reported by the program

evaluations that measured these variables. In a re-training program for teachers in science education collaborated upon by the San Jose State College and 6 California elementary school districts, (See Tabular Summary No. 2, p. 52) the trainees required greater comprehension of inquiry teaching, Behavioral changes in the prescribed direction were also attained, as revealed by the teachers' adoption of a classroom behavior appropriate to inquiry teaching, as well as the increased time period they gave over to science. In general, the program attained its objectives, indicating that peer training strategy can be effective in meeting program goals.

The project evaluations also report positive changes in the affective dimension. In the Supportive Training for New and Inexperienced Teachers (STINT) conducted in some New York City schools, (see Tabular Summary No. 2, p. 53) the experimental group was found to hold more favorable attitudes afterward than the control group. In the peer teaching program at Ohlone College in California, (See Tabular Summary No. 2, p. 52) the faculty and administrators involved similarly exhibited positive attitudes and showed a greater concern for their own teaching, becoming more critical of their classroom work.

Positive reactions from participants further characterize the findings of some of the programs analyzed. Both the Ohlone and STINT projects cite this result. In the former, the trainees judged the program as successful and felt that important goals were achieved, while in the latter, the trainers expressed more positive opinions about their experience with trainees as a whole.

A further indication of the effectivity of this training strategy was the participants' desire to continue such programs. Most of the resource teachers in the elementary schools involved in the San Jose College science education program stayed on as teaching specialists for similar projects. At the Ohlone College, the peer teaching workshop laid the foundation for a continuing program, since the project was felt to be wholly successful in spite of time and funds constraints.

Concerning skills, however, the findings report mixed results. While the Ohlone and San Jose State College programs report positive gains in this area, the STINT project reveals an opposite finding. In the latter, the experimental group did not significantly improve in their teaching skills. In fact, out of 10 observational measures, the STINT teachers were found to be superior to the non-STINT trainees only on one teaching skill.

B. Conditions for Effectiveness

The effectiveness of peer training depends on the smooth interpersonal relationship developed between trainer and trainee. This ideal relationship, which appears to be more easily established in peer training, is ascribable to the absence of hierarchy in job position and the informal atmosphere between equals. This is because any difference in rank tends to inhibit communication between trainer and trainee and consequently can affect the learning process.

Studies Reviewed

A unique feature of the peer model is the relationship developed between peers during the training process. Peer training, it seems, generates a closer and smoother interaction between trainer and trainee. In the San Jose Science Education program, the participants reported the development of camaraderie, which helped the resource teachers to meet the needs of their peers more easily. The teacher trainers in the STINT program, on the other hand, claimed to have developed smooth relations with the new teachers; the trainees themselves showed no resentment at being supervised and guided by their own peers. The peer teaching at Ohlone also developed feelings of rapport, not only between peers but also among faculty and administrators.

The Teacher-to-Teacher Program of Bruckness High School in New York cites observations that explain the special relationship between peers in this project. The teacher selected for the trainer's role is considered a model by the school community, making him more acceptable to the inexperienced teacher. On the other hand, the trainee is aware that the supervision over him does not entail performance rating. This makes him feel free to seek assistance when needed.

In this regard, some other advantages are reported by a military training model based on peer instruction and believed to be applicable to a wide range of both vocational and educational purposes. The model cites the absence of hierarchy in terms of job position as a clear advantage of the peer training method. Because the difference in rank between the trainee and trainer inhibits communication,[15] the informal atmosphere between equals, is held to be more conducive to learning and enlightenment. At the same time the trainee has an opportunity to review newly acquired knowledge and practise new skills.[16]

Conference Reactions and Recommendations

Some of the teacher participants agreed that camaraderie between peers generates closer interaction between trainer and trainee. They felt that more detailed teaching would thus result from such informal and open relations. One beneficial effect seen is the wider coverage of Poped content and methodologies. They believed this will facilitate development of positive attitudes and consequently result in higher quality training.

Other conference participants, however, were of a different view. The division supervisors and other teachers questioned the effectiveness of teachers among themselves. One supervisor who conducted a seminar on the district level noted the apparent laxity of teachers when left to work as a group. Other teacher participants felt that stiff competition among teachers in the division may work against the training.

However, the other practitioners declared that teachers have a drive to excel, and will work harder if given the responsibility to train their colleagues. Some superintendents, for their part, felt that proper selection of trainers and administrative support could help resolve the problem.

The effectiveness of peer training depends on the competence of teacher trainers. Competence refers to adequate knowledge and skills and the ability to establish rapport. Peer training shows that non-authoritative training can be just as effective.

Studies Reviewed

The question asked, however, are who should take on the role of trainer. In the San Jose project, the teacher who was to become a resource person for his peers was selected by his school. This procedure was found inadequate, however, and a recommendation subsequently presented in the program evaluation sought specific criteria to be evolved for the selection of teachers.

On the other hand, the STINT program and the Teacher-to-Teacher project for urban schools in New York required a certain level of competence in their teacher trainers. In the STINT program, the teachers who acted as trainers were considered skilled and experienced in their field. The New York program demanded even higher qualifications and a rigid selection process. Criteria set for teacher trainers included successful teaching in the school, ability to establish rapport with different groups, some knowledge in the field of supervision, and specific strengths and skills within the academic area. Selection of these trainers involved a committee of administrators, teachers and parents, with the final choice being entrusted to the principals and departmental supervisors.

Research done at the University of South California shows that in-service teachers prefer to take the advice of experienced teachers who are currently teaching than other professionals who may have more specialized training but less teaching experience. When asked their preferred source of educational information, most of the respondents chose the experienced teacher as the one who inspires the most confidence in both the cognitive and affective areas of teaching. Experienced teachers currently teaching were even preferred to those teachers who have been promoted to more prestigious jobs which require a greater degree of expertise. Teaching experience is thus seen to be a major contributing factor when teachers judge potential in-service trainers.[17]

On the other hand, there were projects where such experience did not seem to be required for program effectiveness. In the San Jose program a kindergarten teacher acted as a resource person for primary school teachers, for whom she conducted workshops on inquiry learning. Even more striking is the Ohlone experience. Since the peer teaching format of this project involved the faculty and administrators on a parity basis, with no one person or group having undergone prior training, the program did not provide for resource persons or teacher trainers. In the workshops, a person outside the college community served as facilitator, but the main training process, directed at the improvement of teaching skills, was undertaken by the group as a whole. The training involved the teaching of each participant to a "class" of his peers, followed by group critique.

Another question related to the issue of competence is: who should undertake the training of the teacher who will act as trainer for his peers? In the science education program, the training of these trainers was handled by the college of San Jose Estate with whom the participating elementary schools collaborated on program implementation. The college staff provided formal instruction and field supervision for the resource teachers. It was later recommended that their services be extended to the schools involved so they could assist the resource teachers in their own peer training programs.

In the Philippines' own Science Education Project at the Science Education Center, the peer trainers go through a six-week summer program conducted by trained personnel, who themselves undergo more rigid and intensive training – an 18-month teacher education program at the University of the Philippines.

Conference Reactions and Recommendations

The practitioners unanimously expressed confidence in the capability of teachers to train their own peers. They emphasized, however, the importance of the proper selection of peer trainers, noting that they should be entrusted with authority by administrators to give them credibility and status.

Some superintendents affirmed the need for evolving criteria for trainer selection. Selection committees, according to them, should be formed on both the district and regional levels to ensure better screening of trainers. Other superintendents and teachers believed that teachers themselves should be involved in the choice of peer trainers to bring about closer cooperation between the trainer and his colleagues. The districts supervisors cited some specific criteria for the choice of trainers: the person's interest in poped, his intentions, and training skills.

Other superintendents felt that the prestige placed by local culture on academic authority may still work against the success of peer training. However, they added that peer training can be tried under the revised scheme in secondary schools where there is no department head. In this case, a secondary school teacher may be trained to become a peer trainer.

The practitioners, administrators, researchers and policy-makers endorsed the following proposals regarding the competence aspect of peer training:

1. Guidelines for the selection of peer trainers should be formulated by superintendents.
2. The choice of peer trainers should be entrusted to a committee to be composed of STTs, principals and district supervisors. As much as possible, teachers should participate in the selection of the peer trainers.
3. Both trainers and trainees in a peer training program should be given the same length of training of 40 hours. Peer training can be complemented with training modules.
4. Grade-level and subject area groupings in the elementary and secondary schools, respectively, should be formed in peer training so that trainees can discuss and solve common problems.

The effectiveness of peer training depends on the support of administrators, particularly the principals of the schools where the teacher conducts training programs for his peers.

Studies Reviewed

A third important factor in the peer training strategy is the involvement of the school administration. The San Jose science education program considers this necessary, because the role of the principal is essential in facilitating the training process. The principal has to understand, for instance, the need to the same time for the peer trainers, or the need for training materials like equipment and funds. A variation on this theme is given by the Ohlone experience. The peer teaching program led to a realization of the need for joint planning and responsibility for such undertakings.

Local programs also reveal a recognition of the importance of the administrator's role in peer training. In the Science Education Project, the staff of the regional science training centers conduct conferences for principals and supervisors/head teachers of the participating schools. These conferences are called to orient administrators on the new science program and on their role in the implementation of this project.

In the DEC-UP Drug Education Program, an orientation seminar for school superintendents constitutes in fact the first phase of the project. It provides a means by which to orient administrators on the drug abuse problem. More important, it is also aimed to directly involve them in order to facilitate program implementation.

Conference Reactions and Recommendations

Both practitioners and administrators declared that the support of administrators is a central factor in teacher-to-teacher training.

To some practitioners, peer training would be more effective on the district level rather than in individual schools. Some schools, it seems, have very few teachers on their staff. They felt that the aid of administrators should be enlisted in facilitating the management and coordination of the training.

Some superintendents cited several ways of getting administrative support: a) orientation of all administrators on the program; and b) periodic refresher courses.

To determine whether peer training would work under the Philippine educational set-up, the poped professionals proposed the establishment of pilot centers. They further recommended that peer training programs be limited to a small group, possibly numbering about 15-20, to facilitate management and coordination of training.

Peer training involves either a two-step process or several levels of training. Program evaluations indicate that it thus enjoys a multiplier effect that helps ease cost and time outlays in training.

The peer training strategy, like the superordinate scheme, can involve several phases of training. Training may be started from a central or national group, transferred to the regional level, and passed on down to the school level. But it may also be merely diffused from the division to the school level.

In the first approach, a selected corps of teachers first has to be trained or oriented before teacher-to-teacher training can occur. The Science Education Project of the Philippines (SEPP) and the DEC-UP Drug Education Program are of this type. The SEPP, for instance, entails three stages of training, whereby selected participants first undergo an 18-month teacher education program at the UP, after which they conduct 6-week summer institutes for teachers on the regional level. Peer training occurs when the summer institute participants go back to their respective schools and hold seminar-workshops for their fellow teachers.

Other peer training programs, however, simply entail a two-step process or sometimes merely involve the school community. In the San Jose State College science education program, selected teachers in six elementary school districts were trained by the college staff, after which they trained their peers. The Teacher-to-Teacher project and the STINT and Ohlone programs involved only the school communities implementing the program. The first two programs had skilled and experienced teachers as trainers for the beginning teachers. In the Ohlone peer teaching project, the faculty and administrators served as both trainers and trainees; a person from outside the college was called upon only to facilitate the workshop proceedings.

Peer training can also be directed towards the mass in-service education of teachers. The DEC-UP Drug Education Program, for instance, involves nationwide implementation and consequently entails the nationwide training of teachers. The program evaluation of Hunter College's institute in science for disadvantaged urban areas reports the feasibility of undertaking large and intensive in-service teacher training by using supervising teachers as trainers for classroom teachers.[18]

In Florida, the problem of providing in-service training in environmental education to the whole teaching community led to the development of the teachers-teaching-teachers plan. Teacher workshops, though common, had been found to be time consuming, and the projection was that it would take some 15 years to reach all of the 18,000 public school teachers by just sponsoring weekly workshops.[19]

The lack of trained environmental educators and unavailability of necessary funds were also constraints which the academic community found could be overcome with the adoption of such a program. This strategy was seen to have a multiplier effect that would result in low cost, speed and effectiveness of training. It was also considered to be beneficial by providing in-service training to classroom teachers in minimum time. The multiplier effect also resulted in teacher involvement in planning, conducting, and evaluating environmental education workshops, by equipping them with the necessary skills and techniques.[20]

Tabular Summary No. 2

EVALUATION OF PROGRAMS USING THE PEER TRAINING SCEHME

Training Program	Trainers and Trainees	Training Content	Program Evaluation	Remarks
1) The Crucial Factor in Urban Education: An Intensive Teacher-to-Teacher Training Program for Urban Schools. Henry J. Bruckner High School, New York. *1968 (on second year of operation)*	Newly assigned teaching personnel were trained by teachers selected by the school	Practical skills in classroom teaching	On trainer-trainee relationship: 1) Teacher trainer, as a successful model in the classroom, is more readily acceptable to new teachers 2) Trainee knows that supervision over him does not entail peformance rating; thus, he is more open in asking for assistance	
2) Peer Teaching at Ohlone Ohlone College, California. *Four-week program*	Faculty and administrators as both trainers and trainees; a person from outside the college served as facilitator of workshops	Teaching skills	1) Positive attitudinal changes 2) Positive reaction of participants to program 3) Increase in skills: a. Critiquing b. Communication and reception of feedback 4) Recognition of need for joint concern and responsibility in undertaking such programs.	
3) Collaborative Practices between Elementary	1) Elementary teachers selected by their respective schools were	1) Nature of inquiry teaching and learning 2) Content of new	1) Increase in comprehension of inquiry learning	Recommendation 1) Principals should be involved in the program

School Districts and a College in Retraining Teachers for Quality Science Education San Jose State College and six elementary school districts *One-year program*	trained by college staff 2) Peers were trained by the resource teachers	programs 3) Responsibilities of resource teachers for training of peers Inquiry teaching and learning	2) Behavioral changes 3) Improvement of skills 4) Generation of other activities 5) Development of fellowship between peers	2) Criteria for selection of teachers should be set for the successful training of resource persons. 3) Full-time supervision of college staff needed to assist teachers in conducting training.
Training Program	**Sample**	**Trainers and Trainees of STINT program**	**Training Content of STINT program**	**Findings**
1) An Evaluation of the Program, "Supportive Training for Inexperienced and New Teachers", (STINT) in New York City Schools. Institute for Educational Development, New York. *1970. (STINT program on second year of operation)*	Seven matched pairs of STINT and non-STINT schools	Skilled and experienced teachers trained the new teachers	1) Classroom management 2) Use of instructional aids and materials 3) Development of effective routines and techniques 4) Setting up of classroom programs	1) Positive reaction of STINT teacher trainer 2) No significant differences in rating of experimental and control groups by their respective principals 3) More resignations or requested transfers during school year in non-STINT schools 4) More positive attitudes in STINT teachers 5) STINT teachers showed superiority in only one teaching skill (out of 10)

III. How to go about the Model

Steps	Time Target	Persons Involved	Materials	Cost	Site or Venue
1. Enjoining STT's on a self-development program on training skills and strategies.	Before training DS/ES-HT and SP/DH	STT's	Available Materials	–	School or Home
2. Train all DS/ES-HT and SP/DH with emphasis on content	5 days straight sessions	STT's (2-4) and as many resource persons, discussants available	Training Manual & Teaching Guides	Provided	Division
3. Re-orient all DS/ES-HT and SP/DH with emphasis on training skills and strategies	3 days straight sessions	STT's, DS, ES, HT, SP, DH	Training Manual Teaching Guides Materials on the Mechanics of some training strategies	Mimeographing of readings on strategies	Division
4. Encourage DS/ES/P/HT SP-DH to go on a self development program (content & skills)	Any time before actual training of teachers	DS/ESP-HT SP-DH	Available materials, modules when available	School Board Fund	Home or School
5. Provide materials for a poped materials bureau either on a school or district level	Before training periods	STT's, Administrators, Librarians, Teachers, Parents	Magazines, thesis, Pop. Ed. literature, write-ups	–	School or district libraries
6. Utilize or select the more competent DS-ESP to train EST.	A month before training	STT, DS, ESP	Available	–	District

7. Utilize all SP & DH including the services of STT's and resource persons to train secondary teachers	A month before training	STT's, SP, DH, Resource Persons	Available		High Schools
8. Second capsulized readings on the goals and rationale of PEP	A week before training	School Administrators, Teachers	Memorandum readings	Minimal	
9. Orient teachers on their role expectations after the training – thru meetings, group discussions, or buzz sessions	A week before training	Teachers, School Administrators	Memo Experiences	None	
10. Train teachers with emphasis on their role as implementors of the pop. ed. program	5 day – 40 hr. straight sessions or staggered 40-hr. period	STT's and recommended trainers, resource persons	Manual Guides	None	School or District
11. Distribute modules for enrichment and to check shortcomings of formal training	Anytime after training and before the actual classroom implementation	Teachers	Modules	School Board when feasible	School

The module is a recent innovation. A lot of research has been done on the effectiveness of modules, and findings have generally indicated that this instructional method can bring about learning. Like most innovations, however, the modular approach has been slow in gaining acceptance. It was only recently that, being found effective, it was adopted for use in particular teacher education programs.

The experimental studies on the use of instructional modules indicate a greatly favorable view of the effectivity of the modular strategy in training teachers. The findings also show that it is equally feasible in both pre- and in-service training.

A. Changes in Knowledge and Attitude

Self-learning modules can bring about as great a gain in knowledge as traditional instructional models, and in fact can effect more mastery of subject matter than the conventional classroom method. Modular training, moreover, can develop positive attitudes in the trainees.

In the cognitive domain, self-learning modules can bring about an increase in knowledge. Ziebarth and Jones (1971) compared the learning outcomes of students using self-instruction and students using the traditional three-credit-hour course. They found that both groups made significant achievement gains, showing that modules can achieve as much as traditional instructional methods. In field testing self-contained teacher education

kits on pre- and in-service social studies teachers, Carswell and Kurfman (1971) positively assessed the effectiveness of the materials in promoting learning.

Similar findings are revealed in the experiment of Hurst on the effectiveness of competency-based modules in training pre-service teachers in inquiry teaching. (See Tabular Summary No. 3, p. 63). Two treatment groups were formed, one of which learned the modules individually, the other constituting a group setting where modules were used as course syllabus and guides for learning activities. A significant increase in knowledge was found to have been attained by the teachers in both treatment groups, with no significant difference in knowledge gain between the two

In all three phases of the Individualized In-Service Teacher Education Program (IN-STEP) in Florida, (See Tabular Summary No. 3, p. 64) which aimed to develop an effective, economically feasible module for in-service training, measures in the cognitive aspect were consistently high. In the third phase, in fact, all of the participants completely mastered the content of one of the modules.

John Kennedy *et. al* (1969) conducted another study, within an in-service setting, of the efficacy of a self-instructional program in the Flanders system of interaction analysis. Findings revealed that the teacher participants acquired an elementary knowledge of this system. Data on another in-service group of secondary social studies teachers in Maryland also showed significant differences in the trainees' pre- and post-test scores on modules, which were aimed to develop teaching competencies in employing questioning strategies.[21]

Modular training, as evidenced by the research that explored this aspect, also appears equally effective in producing positive changes in the affective dimension. Hurst's study reported significant gains in the treatment groups' attitudes toward inquiry teaching. Similarly, a favorable attitude generally characterized the attitudinal change in the participants of the IN-STEP project. In the area of pre-service education, the University of Nebraska points out that its modular program (NUSTEP) has achieved its affective objective of producing more confident teachers.[22]

B. Behavioral Change

Modular training can develop teaching skills and produce the desired behavioral outcomes. However, its effectiveness depends to some extent in the proper orientation of teachers towards the use of modules.

Concerning teacher behavior, the findings show that the modular strategy can promote the desired behavioral outcomes. In Project IN-STEP, the three phases were conducted as separate experimental studies, and a large percentage of the participants in all three phases changed their vehavior positively. Phases I and II (See Tabular Summary No. 4 p. 65) saw 89% of the trainees slightly changing their behavior and 69% altering their classroom behavior to a greater degree, Phase III effected behavioral changes in 93% of the trainees.

The findings of Hurst on the effectiveness of modules in training teachers in inquiry teaching revealed a considerable change in the treatment group's behavior, there was a significant decrease found in the teachers' preference for a directive teaching style.

A study of the University of Nebraska program (NVSTAP) showed that teachers who participated in the performance-based program exhibited greater ability to select and use various teaching skills and strategies than teachers who went through the traditional sequence of courses. In such a compentency-based program, desired teaching skills are specified in the self-learning packages and a demonstration of proficiency for each competency is needed before credit is awarded.

The same finding is revealed in the program evaluation of the performance-based teacher education program at the Illinois State University. About 85 to 90% of the teacher trainees felt that they had become competent in using and demonstrating specified teaching skills and techniques.

One differing view on behavioral change per modules training is the finding of the self-instructional in-service program on the Flanders System of interaction analysis (John Kennedy *et. al).* No evidence indicated that the instructional treatment increased the influence of teacher to enhance students to participate more in class discussions . This was traced partly to the unfavorable attitudes apparently held by some of the teachers toward the project as a whole, which affected the experimental findings. This was believed to be due to the lack of time given to in-service teachers to orient themselves to the use of modules.

C. Trainees Reaction

Self-instructional modules generate a greater personal interest in learning and require a much greater effort than the traditional course. Modular training enables participants to progress at their own rate.

A positive reaction runs through teacher trainees' evaluation of their experience in using modules. Carswell and Kurfman reported favorable teacher response towards this instructional mode. The self-contained teacher education kits were found to be more generally interesting and useful than other approaches. Over 95% of the instructors who participated in the study even cited their intention to use the kits again. And when compared to the traditional method of instruction, student teachers' attitudes toward the use of modules were found to be more positive (Ziebarth and Jones). (See Tabular Summar No. 3, P. 62) In the IN-STEP project, only 15% of the participants were found to prefer a traditional type of training as compared to the IN-STEP approach.

In a study conducted by Pyatts (1972) (See Tabular Summary No. 3, p. 62), both pre and in-service teachers responded favorably to the experimental mode of instruction. Pre-service teachers liked the modules, particularly the content, because it was both clear and useful; in-service teachers similarly considered it useful. Both groups, moreover, indicated that they liked the approach because it allowed them to progress at their own rate. In the teacher education program at the Illinois State University, two-thirds of the student teachers reportedly liked the self-pacing and flexibility of the approach.

Responses of pre- and in-service teachers in other studies indicate benefits gained from this training strategy. Research done by James Michell *et. al* shows that trainees saw self-instruction as generating a greater personal interest in learning and requiring from them a much greater effort than the traditional course. Many felt, moreover, that the course had been valuable in meeting their present professional needs. Most of the participants thus expressed the device to have modules more widely available to other students.

Around 75% of the teacher respondents in the Maryland study cited the self-instructional method as more effective than other in-service training programs. They found it to be an enjoyable and efficient method for developing teaching competencies.

Opinion data on the self-instruction program at the Weber State College also shows that students generally held a favorable view of the new instructional mode. Graduates of the program, moreover, felt that they were effective in applying competencies learned in the program, and that it was precisely such teaching competencies that they needed as classroom teachers. Other reported observations on the program point out that students are learning more. And since grades in this program have ceased to become the final criteria, students now work for the purpose of achieving competence.

D. Management of Training

Modular training can easily be conducted because it can simultaneously reach a large number of trainees who are widely dispersed, and requires only a few persons to monitor and manage the utilization of modules. Self-instruction, moreover, lends itself to flexible use.

One practical advantage of modular training is the facility with which the training process can be conducted and managed. The modular approach can reach a large number of trainees at only one time. The experimental study (Carswell and Kurfman) (See Tabular Summary No. 3, p. 62) on the differential effects of self-contained teacher education kits involved 1,400 pre-service teachers in 64 classes that represented some 35 states. This implies that modular instruction is more suitable in situations where trainees are widely dispersed. It becomes doubly useful when those to be trained constitute a big group. This is significant largely in terms of the economical use of resources and funds, since modular learning in this case constitutes direct training.

The primary objective of Project IN-STEP was precisely to develop an effective and economically feasible model for in-service training. Having been found to be generally successful, Phase II of the project further aimed to refine and test the model for conducting individualized in-service training on a large scale. Teachers in two Florida counties thus served as the experimental group for this project.

The modular approach, moreover, requires only a few persons to monitor or arrange the use of modules, since the trainee undertakes his own learning through self-instruction. This strategy thus entails direct teacher training. Unlike the superordinate scheme, it does not require different levels of training to serve as successive linkages in reaching the teacher. A shorter period of time is thus required in the training process.

Replacing with a multi-step training process also contributes to a tighter control of the quality of training. Direct training lessens the possibility of varying emphases on content and methodology that may arise when the final training of the teacher has had to evolve out of several earlier training transfers from one level to another. In the modular approach, the quality of training is further assured by the various pretests and revisions a self-instructional unit goes through before it is finally distributed for use.

Another area that offers practical advantages is the flexibility of the modular approach. The experiment on modules in inquiry teaching (Hurst) has shown that in both individual and group arrangements of modular use, significant increases in knowledge and attitudes were achieved. There was no difference in gain between the individual and group treatments. This supports the view that self-instruction lends itself to flexible use, whether utilized as individual learning packages or simply as resource guides.

Learning at one's own pace is another advantage commonly cited in research earlier reviewed. Traditional approaches, it seems, have not given due emphasis to the fact that individuals learn at varying speeds. The benefits from modular training also work the other way in this respect. For the instructor, the adaptability of this method gives him the opportunity to attend to the individual needs of the students. It frees him from the rigid role of the traditional teacher, enter into a more fluid interaction with his students:

E. Conference Reactions and Recommendations

1. Relevance

Some of the conference participants, however, raised the question of the relevance and suitability of the modular approach in the Philippine cultural and educational milieu.

Because modular training entails independent study, it is considered a largely impersonal way of learning. The teacher plays a minimal role in the teaching-learning process. Modular instruction may thus not be suited to the Filipino, who often prefers the "personal" approach.

Diverse opinions were expressed in this regard. The teacher participants held the view that teachers are capable of self-study. This was confirmed by some division supervisors, who claimed that the image no longer holds the Filipino teacher as one who is dependent on his superior. They declared that the ranks of independent-minded teachers have now increased. Some superintendents and a lone division supervisor disagreed, however, saying that a docile attitude is still prevalent among teachers.

To some principals, modules may be one way of solving the training overload, since modular study can be done during the teacher's leisure time. But it is precisely the lack of free time for teachers that makes superintendents doubt the effectiveness of the scheme. The

heavy work load of teachers leaves them little time for self-learning.

These superintendents confirmed, as another obstacle, the prevailing cultural traits pointed out by the teacher participants. Some teachers cited the *manana* habit and the *bahala na* syndrome as Filipino traits which could work against the discipline required in modular study. Other teachers said, however, that these attitudes could be rectified with proper orientation and close supervision.

One division supervisor called attention to the importance of face-to-face interaction for effective instruction. This was also raised by some administrators. Some of the teachers, however, claimed that modular instruction is not totally devoid of a personal approach. They explained that modular training provides for opportunities to work in groups. In addition, they pointed to the functions of the monitor, who guides the trainees over difficulties encountered.

2. Materials

The practitioners and administrators added one more factor which, they felt, greatly contributes to the effectiveness of the modular approach. These poped professionals unanimously declared that the success of modular training is largely dependent on the early and timely distribution of modules.

One division supervisor related the experience of her division, in which modules were field-tested. She pointed out that, had the modules been given before the closing of the school year, their study could have been undertaken in just two weeks instead of a month. The distribution of modules was ill-timed since teachers have other duties to attend to at the close of each year.

The best time to undertake modular training, according to some superintendents, would be summer or during long vacations. They remarked that modules serve as a good aid in training, but one problem they foresee is the usual lack of materials.

3. Economic Feasibility

On the economic feasibility of the approach, the practitioners agreed that less cost would be incurred with the use of modules. They cited two reasons: (1) stipends will not have to be given since modular study can be done in the school localities; (2) this approach will also prove economical in the long run since modules can be used repeatedly by a great number of teachers.

The administrators disagreed, however. The principals claimed that the revised (superordinate) scheme will prove more economically feasible with the withdrawal of stipends. Some superintendents, on the other hand, believed that a great outlay would be needed in the production of modules.

All the conference participants, however, agreed that modular training should first be tested. To determine its overall effectiveness, they proposed that prepared modules on poped be tried out on a wider scale. Realizing the importance of timely distribution, they recommended that modules be disseminated during the early part of the school term. They further suggested group sessions, consultant services, and periodic reactions and clarifications during training as a check on the trainees' progress.

Tabular Summary No. 3

EVALUATIONS OF PROGRAMS USING THE MODULAR TRAINING SCHEME

Study	Objectives	Sample	Findings
1) The Effectiveness of Performance-Based Training Modules on Planning and Presenting. *Jeff Pyatts, 1972.*	1) to test the effectivenss of two modules with pre-service and in-service teachers. 2) to determine whether the two groups of teachers react differently.	1) 3 classes of pre-service teachers 2) 14 in-service teachers	1) module on planning was considered ineffective while that on presentation was deemed effective. 2) effectiveness of the modules was unrelated to group of teachers. What was effective for one was also effective for the other. 3) reaction of both groups to modules was very favorable 4) pre-service teachers liked the content because it was both clear and useful while in-service teachers considered it useful. 5) both groups indicated that they liked mode instruction because it allowed them to progress at their own rates.
2) Secondary Education Individualized Instruction Project. *Raymond Ziebarth and Virginia Jones, 1971.*	1) to determine the effect of placing one course on a competency-based, individualized mode of instruction.	40 students divided into: 1) one group receiving traditional instruction (3-credit hour course) 2) the other group using modules	1) both groups make significant achievement gains; no significant difference in the amount of achievement gain. 2) attitudes of the students toward the experimental mode of instruction was more favorable than that of students toward the traditional mode.
3) Differential Effects of Self-contained Teacher Education Kits On Pre and In-Service Social Studies Teachers *Ronald Carswell and Dana Kurfman, 1971.*	Field-testing of 3-5 hours self-contained materials; 1) Using simulation to involve students 2) Using media to stimulate inquiry 3) Using evaluation to improve instruction	65 pre- and in-service training programs: a) 64 instructors b) 1,400 pre- and in-service teachers	1) favorable response of participants towards instructional mode. 2) few conclusive differences between control and treatment groups on attitude change.

			3) positive assessment of effectiveness of kits in promoting learning. 4) over 90% of instructors intend to use the kits again. 5) kits generally found to be more interesting and useful than other approaches.
A Terminal Individualized Instruction Program for Prospective Elementary Teachers. *James Michell et. al.* *(date of study not specified)*	to give students an opportunity to study and correct their identified teaching deficiencies through self-instruction	34 pre-service teachers; no control group, comparison based on traditional 3-credit hour course	1) 97% felt that in terms of their present needs and professional gains, course had been valuable. 2) compared with 3 credit hour course, 47% felt that the amount of effort exerted was greater than average; 41%, average effort. 3) 85% felt that personal interest value was greater than average 4) 85% felt that S-1 courses should be more widely available to students; 15% felt that such courses should be used only to achieve relatively limited instructional objectives.
Competency-based modules and Inquiry Teaching *Joe Hurst* *(date of study not specified)*	1) to test effectiveness of modules in training teachers in inquiry teaching 2) to compare the effects of two classroom arrangements: individual and group instruction	60 pre-service teachers divided into: a) two treatment groups: individual-learning where modules were studied individually and group setting, where modules were used as course syllabus and as guides for activities b) control group	1) significant increase in the achievement of students in both treatment groups. 2) significant gains in the treatment groups' attitudes toward inquiry teaching. 3) significant decrease in treatment groups' preference for a directive teaching style. 4) no significant differences between teachers' knowledge, attitude and preferences in the two treatment groups.

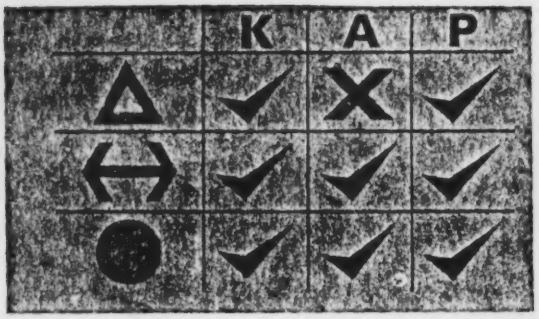
6) The Effectiveness of Two Interaction Analysis Instructional Modules within an In-service Setting. *John Kennedy et. al., 1969*	to determine the efficacy of a self-instructional in-service program in Flanders' system of interaction analysis	teachers in nine Tennessee elementary schools: 1) three schools received the self-instructional program (SIP) 2) three received the SIP plus telelecture presentations presented by a college instructor 3) three served as controls	1) participants acquired an elementary knowledge of interaction analysis; no observed differences between the two treatment groups. 2) no evidence indicated that the instructional treatments promoted greater teacher indirect influence or student involvement. 3) teacher reaction to program revealed diversity of opinion.
7) Individualized In-service Teacher Education (IN-STEP) Phase I. *County Board of Public Instruction, Boynton Beach, Florida, 1968.*	to develop an effective, economically feasible model for in-sefvice training; method to be used was an individualized multi-media approach	300 public and non-public school teachers, pretested and placed in various instructional groups: three treatment groups and a control group INSTRUCTIONAL TREATMENT: 1. videotapes 2. self-study programmed text 3. classes conducted by IN-STEP instructors in which they actually used the "Science – A Process Approach" science curriculum which provided the content for training	1) increase of knowledge in treatment groups 2) generally favorable attitude of teachers in experimental groups 3) on behavioral change: 69% of total experimental group changed their teaching method. 4) reaction to program: only 15% would prefer a traditional type of course as compared to IN-STEP. 5) indirect measure of proficiency in one of the basic processes of AAAS science and second grade students whose teachers participated in IN-STEP. 6) a moderately favorgble indication of a difference in the attitude of sixth grade pupils whose teachers were trained in IN-STEP program cmparedo to a random sample of other sixth graders.

8) IN-STEP, Phase II. *1972.*	to further refine and test the model for conducting individualized in-service training of large number of teachers	1) teachers in two Florida counties served as the experimental group 2) control group was run in Palm Beach County	1) gain in the mean scores of treatment groups in the Elementary Science Teacher's Inventory 2) behavioral change – 89% have modified their classroom behavior somewhat and 69% have made more than nominal change in their teaching behavior.
9) IN-STEP, Phase III. *1971.*	1. to see if the model could be successfully transferred to an area other than teaching teachers to reach elementary science. 2. to develop the vehicle for field testing the model during this phase; course used was the module, Management of Instructional Systems.	85 teachers	1) approximately 93% of participants developed an instructional system of their own. 2) 100% of the participants completed at least one of the modules with a mastery of its content. 3) approximately 93% of teachers indicated that they had changed their behavior in the classrooms.

Teacher education	Instructional program	Program observations
3) The Individualized, Competency-based system of Teacher Education at Weber State College. *Caseel Burke, 1972.*	The Weber Individualized Learning kits (Wilkits), using the module as the learning instrument, formed the basis of course blocks. These were used for preparing elementary and secondary teachers.	1) both students and faculty are working harder than under the previous system. 2) students are learning more. 3) students work to achieve competency in the absence of grades. 4) friendlier and more cooperative student-faculty relationship. 5) students and faculty can adjust effectively to new behavioral patterns. 6) public school teachers and administrators show enthusiasm for educational innovation.

SUMMARY OF THE EFFECTIVENESS OF THE TRAINING STRATEGIES

EFFECTIVENESS



Each of the three training strategies discussed in this monograph has its own peculiar characteristics on which depend the feasibility of the scheme as a whole. These factors vary in number and degree of manageability.

The following is a comparative analysis of the three strategies according to certain factors deemed essential to the general viability of a training scheme.

A. Changes in KAS

All three training schemes are effective in positively changing trainees' knowledge and behavior. However, they tend to differ in levels of developing favorable attitudes and improving skills.

Positive gains in the knowledge, attitudes, behavior and skills of the trainees are a measure of the effectiveness of a training program. In the cognitive dimension, all three training strategies appear to be effective in bringing about a substantial increase in knowledge. Positive changes in behavior can also be produced through the adoption of any one of these schemes, taking into consideration the necessary conditions for viability of each one.

However, with regard to the effects of these training schemes on attitudes and skills, the limited studies included in this review present mixed results. Both peer and modular training are successful in developing favorable attitudes in the trainees, while superordinate training appears inadequate in positively changing trainees' attitudes. Two superordinate training programs reviewed here report a lack of favorable change in the affective dimension. In

the CERLI program, hypothesized attitudinal changes and desired characteristics were not successfully effected in the trainees. The participants in the T level of the STEP project, on the other hand, showed unfavorable and even resistant attitudes towards the training program. These participants viewed their training as having little value.

Program evaluations on skills improvement also reveal varied findings. While some program assessments show positive gains in the trainees' skills, two programs, one using the superordinate scheme, the other the peer strategy, report opposite results. The trainees in the CERLI training program, which adopted the superordinate scheme, developed skills in only two areas: operational definition of goals, and resource utilization in dealing with a practical problem. The trainees' data skills, however, were found not to have significantly improved. Similarly, the results of the STINT peer training program revealed that not all of the prescribed teaching skills were developed in the trainees. The experimental group, in fact, showed improvement in only one out of ten observable leading skills.

For the modular approach, however, the studies reviewed indicate that self-instruction does develop trainees' skills.

B. Management and Coordination of Training

The various degrees of management and coordination in the three training schemes can be reproduced in a continuum, with superordinate training at one end, peer instruction in the middle, and the modular approach at the other end. Thus, direct training, as entailed in modular use, appears to be more beneficial than indirect training (both peer and superordinate) in terms of smoother and easier management, because it requires a smaller staff and less coordination among, and dependence on, the various levels of the educational system.

In the modular approach, the trainee can directly undertake his own training through independent study of the modules. The trainor or instructor merely acts as a guide to be consulted if any difficulties are encountered. In the other two schemes, however, multi-level training occurs, whereby the classroom teacher receives training only after several other groups have been trained. The teacher-trainee is not directly trained by the original trainer core; he receives his training from the intermediate level, composed of teacher-trainers.

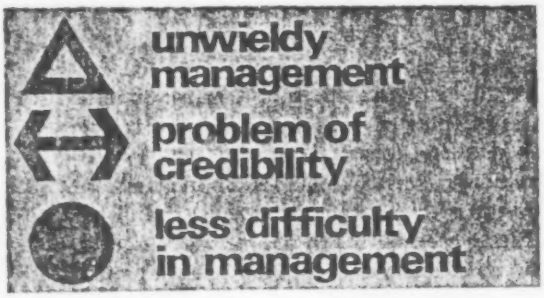
Among the three schemes, superordinate training is most susceptible to unwieldy management of the conduct of training. The various levels of training involved, together with the large training staff required, necessitate tight control of the training process. The interdependence of these levels further reinsures to the complex, chain-like structure that

characterizes superordinate training. Proper and (qualitative) coordination is thus a crucial factor and a necessary condition for its effectiveness.

Compared to superordinate training, program coordination can be achieved more easily in peer training. To have good coordination, the only important factor that the teacher needs to consider is the administrative support of his school. Administrative assistance help to facilitate the implementation of training, whether in terms of releasing the teacher from his classroom duty in order to do training, or in terms of providing funds or equipment needed for the training sessions. The informal interaction that characterizes the trainor-trainee relationships perhaps also contributes toward a smooth coordination of training activities. The feeling of camaraderie between peers can bring about an open climate and intimate relationship which can facilitate better coordination of the training process.

However, program coordination easily achieved in modular training. The absence of a large training staff and of a multi-level training process makes the modular approach more manageable. Since modular instruction involves the trainees in an independent study, good coordination mainly takes the form of ensuring that reference materials and learning aids suggested in the modules are available for use by the trainees. It also means the smooth passage of the trainees from one module to another if a cluster of modules is needed for study.

MANAGEMENT &
COMMUNICATION



In terms of the manageability of accurately delivering training content to the trainees, the modular approach also excels over the other two training schemes. Trainors and trainees complain that, in superordinate training, it is sometimes difficult to maintain the quality and accuracy of training content and methodologies that are transferred from one group to another. The content or subject matter, methodologies and objectives of training become vulnerable to variations in emphasis and interpretation. Thus, in some stages of the training process, accuracy and uniformity of content is either lost or distorted.

The modular approach offers more advantages on this count. Since content objectives and skills are delivered to the trainees via written materials, accurateness and uniformity are ensured.

C. Training Staff

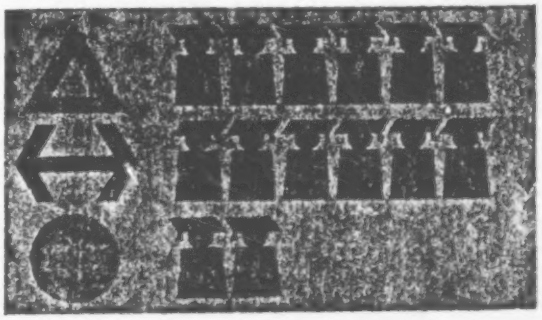
The quantity and degree of quality of training staff also vary among the three training schemes. Aside from the necessity of having a large training staff, both superordinate and peer training also require that trainers in all levels of the training process be highly qualified to ensure the quality of the transfer of training from one level to the next or from one person to another. In modular instruction, training expertise is mainly needed on one level--among those who develop the materials in the first place.

The superordinate strategy requires the largest training staff of all schemes. Since the training process entails two or more stages, one trainer group necessarily has to take charge of the training at each level. Under this scheme, training must first be provided for a trainer core, who will then handle the training of teacher trainers, from whom the classroom teachers in turn will receive their training. The trainer core and the teacher-trainers make up the entire training staff since both groups contribute to the final training of the classroom teacher. When added up, this may constitute a fairly large number.

The peer training scheme likewise can involve multi-level training. The teachers who will become trainers for their peers will first have to be trained. Consequently a trainer group is also necessary in this strategy. These two groups combined -compose the training staff in a peer training program.

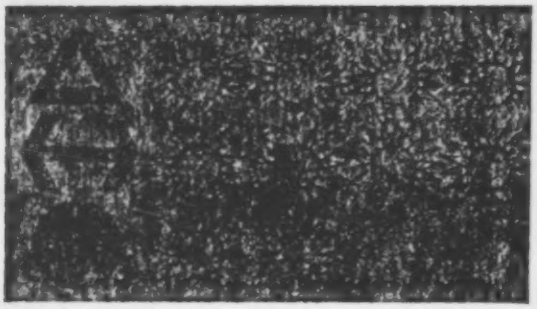
Unlike these two schemes, only a minimal number of trainers or instructors is needed in the modular approach. Since modules are self-instructional, trainers serve only as guides to trainees as the latter go through the learning activities of a self-contained package. The qualification of expertise that is required of the training staff is thus not applicable in modular training. The trainers in this strategy do not strictly function as a trainer group, for they do not conduct actual training for groups of trainees. Supervision and guidance of trainees in their independent study of modules are their only important functions.

TRAINING STAFF



TRAINING TIME

D. Length of Training



The modular approach requires the shortest period of time for training. Unlike peer and superordinate training, which involve various levels, modular instruction entails direct training. Modular instruction can thus occur simultaneously for all trainees, provided the needed materials for independent study have been disseminated to all the participants.

The period of training is an important factor to be taken into account in the operation of a training program. Of the three training strategies, superordinate training would require the longest span of time. Again, this is mainly due to the various stages that the training process entails. The indirect nature of the training necessarily means a longer period of time to be spent for the program. Moreover, since the levels involved are interdependent, training of the classroom teacher can occur only after the trainer groups in the upper ranks of the hierarchical structure in the superordinate scheme have been trained.

Compared to the superordinate strategy, peer training requires less time. Once a select group of teachers have been trained, training for the rest of classroom teachers immediately follows. There is no other intervening level that requires training before the teacher is reached.

Self-instructional modular training, however, entails the least training time. It involves direct training, modular training simultaneously for all trainees, once the materials for independent study have been disseminated. Although a trainee can undertake the learning activities in

the module at his own pace, the length of time for the completion of the module is specified. The modular approach thus provides for a certain degree of control over the training period.

E. Cost Effectiveness

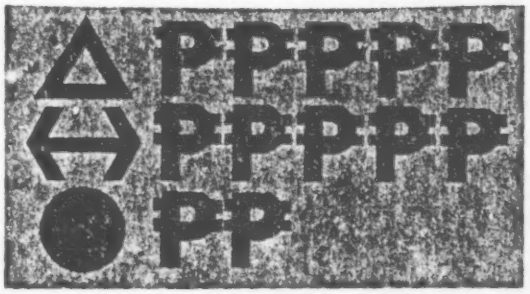
The self-instructional modular training is the least expensive of the three training strategies. It requires a minimum number of trainers, shorter training time, and can be directly undertaken in the school localities. The only cost needed is for quality production and effective distribution of materials.

Superordinate training entails heavy costs. The superordinate scheme demands a large training staff and a greater length of time for the multi-level training involved. By comparison, peer training would be more economically feasible. It involves smaller numbers to make up its training staff, and a shorter period of time for training.

However, it is self-instructional modular training that would entail the least resources for program operation. Modular instruction requires a minimum number of trainers and training time. Moreover, it constitutes direct training; modular training can be undertaken in the trainees' own school localities. This is significant in terms of economical use of resources, particularly when trainees constitute a large number and are widely dispersed.

The choice of training strategy, however, is not an easy task. Economic feasibility, quality of training, the number of teachers a training

ECONOMIC
FEASIBILITY



scheme can reach are not the only factors that must be carefully examined. As gleaned from the reactions and observations made by the RU conference participants, the problem poses implications that go beyond the usual time or resource considerations commonly encountered in running teacher training programs. Such essential factors as the Filipino temperament or the nature of the educational system, for instance, must be taken into account. These are factors that would affect the acceptability or even the effectivity of a scheme in a particular cultural milieu.

71/A

INTRODUCTION

Part Two includes two sets of teacher training schemes. The first set of models was designed by three groups of practitioners (teachers and supervisors), while the second set was drawn up by four groups of administrators (principals, supervisors, and superintendents). These models were derived from the results of the workshop sessions for practitioners (teachers and supervisors) held in April, and administrators (principals, supervisors, and superintendents) held in June.

All of the seven workshop models basically adopt an eclectic approach, combining the essential features of the three training schemes presented and discussed in the literature reviews. These are: (a) superordinate training, constituting a superior-subordinate relationships; (b) peer training, using a teacher-to-teacher structure, (c) and the modular approach, characterized by the use of self-instructional materials.

Most of the workshop models, however, are principally structured around the framework of the newly adopted revised training scheme. As a result, most of these designs largely constitute a modification, reinforcement or refinement of the revised training scheme as best suits local training conditions. Modifications made focus on provisions for an easier implementation of the revised scheme on the local levels.

ECLECTIC TEACHER TRAINING MODEL GROUP I ADMINISTRATORS' WORKSHOP MODEL

The model we are presenting uses an eclectic approach combining the 3 schemes - superordinate, peer, and modular approach.

a. STT's will train the district supervisors, elementary and secondary school principals, secondary department heads, and peer trainers in a 5-day program.
b. District supervisors, elementary and secondary principals, secondary heads who have previously undergone the 5-day STT training program will undergo a 3-day reorientation program.

In both training programs, available modules will serve as supplementary resource materials.

A group of district supervisors and principals may be selected during this training to constitute a mobile training team that will visit schools that are in need of its assistance.

The peer teachers to be trained should be chosen according to the following guidelines:

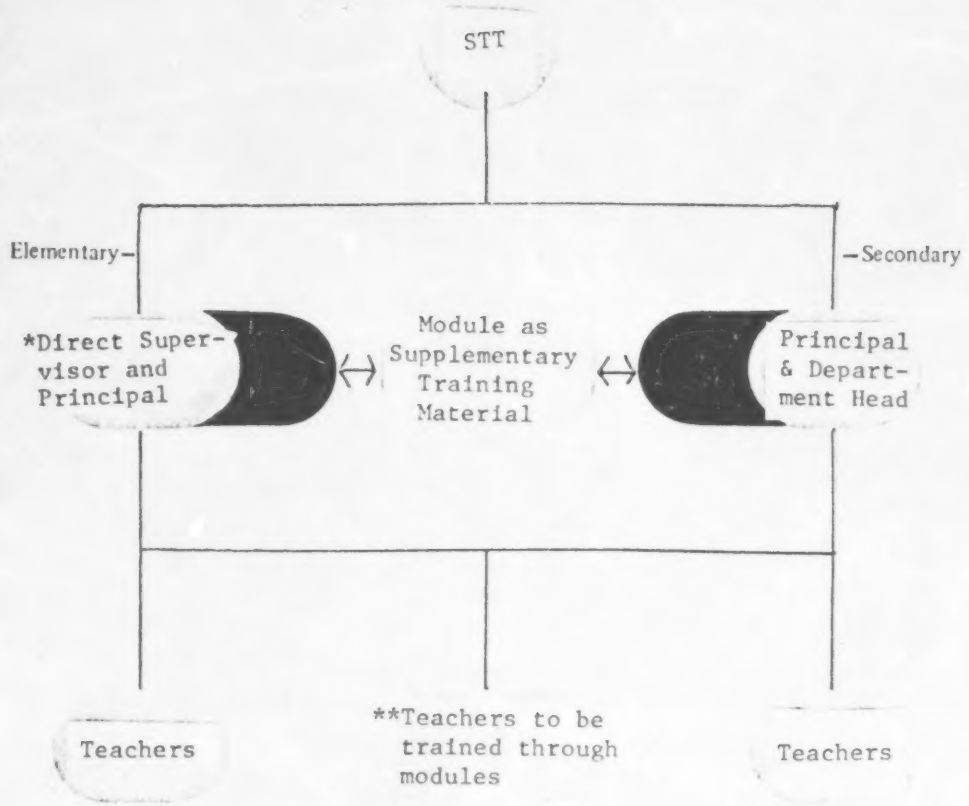
a. As much as possible, the peer teacher should be selected by the trainees.
b. He should be one who has demonstrated a positive attitude, dedication, and leadership.
c. He should possess the necessary communication skills.
d. Others

The 40-hour school level training program to be attended by the teachers will be structured according to local conditions. It can be:

a. continuous program
b. staggered program
c. other structures

After the regular training, the teachers should attend more demonstration lessons on the integration of population education into the different subject areas to increase their competence.

Teacher Training Comptence
Classroom implementation



*Selected superintendent/principal will serve as mobile team

**Self-study, monitored by district supervisor, principal, department heads, or peer.

73

KISTA TEACHER TRAINING MODEL
GROUP II ADMINISTRATORS'
WORKSHOP MODEL

The Population Education thrust evolves from a new Department Memorandum No. 144 dated May 28, 1976, which accelerates the training needs toward a goal of 100% of the teaching personnel by the summer of 1977. At most only about 20% have been trained to date leaving 80% to be attended to by the end of the time table.

The training program adopted by the group is essentially developmental in nature. From the basic training of teachers it becomes a follow-through re-training program, reinforced by subsequent enrichment trainings. While quantity seems to be the over-riding factor, quality has been built into the design of the training. Attitudinal and behavioral changes are crucial components in the projected and results of the training scheme.

The training program considers the present demands which could be expanded into the future. It includes the non-school populace; the out-of-school youth and adults; citizens of the community whether literate or illiterate reachable through the trained special class of teachers; and the adults and community teacher-coordinators within the system. It also provides for a continuing, periodic enrichment training for all division levels when the Population Education Program of the DEC shall have ceased direct training by 1977.

The projected training schemes become effective only when the committed support of administrators are forthcoming. Their educational leadership in an integrated training program in the division is vital in making the Population Education position possible and feasible. This integration serves the needs of other training areas during the school year.

In the above proposed training scheme on the division level the group presupposes that the school division has two sets of STT's – one set for the training of district supervisors and elementary school principals and head teachers – and that there are trained and untrained school administrators and classroom teachers.

The STTs train the school administrators of both the elementary and secondary levels. From among these administrators the superintendent of schools selects competent district supervisors and elementary school principals to train the secondary school teachers.

The number of teams and the duration of training periods depend upon the number of teachers untrained for both levels. Training period may cover five to seven days.

Administrators not chosen by the superintendent to compose the MOBILE TEAM will have to make the so-called follow-through in order to find out if those already trained are using their skills. The others may also serve as resource persons in the actual training along their own competence and line of specialization.

Teachers who have not undergone training will be the subject of the training course – *the basic training.*

The training staff or MOBILE TEAM A consists of selected competent supervisors, head teachers, department heads and competent classroom teachers with STT's as facilitators.

The Basic Training for untrained teachers is

to be conducted within the *1st* Semester, starting July to October, 1976. The training course may take a 3-day – 5-day – 7-day – 8-day or a staggered time schedule as the case may be, depending on local conditions, provided the 40-hour requirement is met.

For the months of July-August we would like to propose a training for trainers as mentioned by my associates.

If the division is divided into two zones at least 1/2 or 50% of the untrained teachers will be trained on or before the end of October and the remaining 50% on or before December, 1976. In other words, we shall be able to train all untrained teachers towards the end of December, 1976.

If necessary, we may divide the Division into clusters to facilitate training and insure maximum coverage of population education – trained teachers as suggested in Department Memorandum No. 144, 1976 regarding Implementation of the Revised Training Scheme in Population Education.

On cost effectiveness the group felt that the training period shall be shortened because it could be done simultaneously and even individually by congressional zones or clusters.

The development-oriented group focuses on these module schemes as a TRAIN ALL perspective. With this in mind, nobody is left out untrained.

You have seen our module starting from:

A. Training STTs (division level)
B. Teachers Training
   1. Untrained – graduates prior to 1977
   2. Newly appointed teachers
C. Time Line – MOBILE TEAM
   1. Basic Training – July-August
   2. 50% – Sept.-October
   3. 50% – Nov.-December
   4. Division Clusters – 100% trained teachers

From this Springboard, – we now summarize – THE ADMINISTRATOR AND TRAINERS DEVELOPMENT PROGRAM

1. Division CORE OF TRAINERS – PEER Training and Module (selected STTs, Supervisors, Head Teachers follow-through enrichment procedure)
2. STTs – Reorientation – National Training Team trainers (national level)
3. TOP-LEVEL ORIENTATION – Regional Division Staff and Commitment for Regional Program for Coordinators, Superintendents and Heads of College

The team in short has designed the ABCDE approach.

We are Aware of the program
We Believe this program
We are Committed to this program
We must Do it now, tomorrow is too late
From feedbacks we can Evaluate – then the cycle.

The trainees' count includes both untrained and trained teachers. Appplicants who graduated from Teacher Training institutions on or before 1975 are included in the untrained group which will undergo basic training on or before summer of 1977. Teacher applicants who graduated after 1975 are considered trained because they are expected to have earned units in Population Education in College.

75

The whole training program consists of 3 phases. These are:

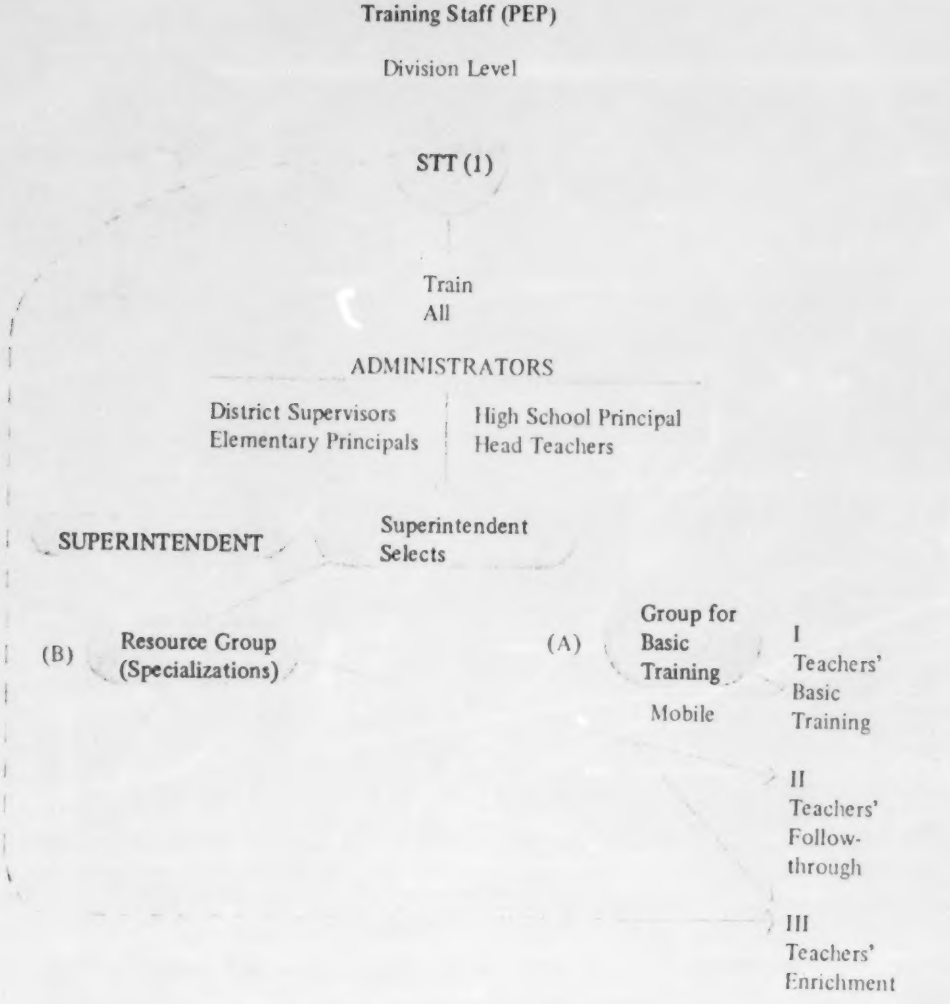
Phase I – Basic training is given to deepen awareness of teachers of the population situation in the micro and macro levels. This seeks to develop change in attitudes and behavior towards the implementation of population concepts. It also aims to develop teaching competence in teachers of said population concepts. The training is done by the trainers mentioned and described in the first model. In this phase, 100% of all teachers shall have been trained by summer of 1977 or before.

Phase II covers the follow-through training which aims to provide an in-depth study of population concepts and further strengthen the development of behavior and attitude changes. This training is recommended in Divisions where almost all of the teachers have already been trained. There is a felt need for a follow-through training to update teachers' knowledge and teaching competencies. This can be done for a shorter period of time with the modular and peer approaches. It is suggested tha' the training be scheduled at the beginnin of every rating period. Content covered shoul include only those that are expected to b taught for that particular rating period. In follow-through training, it will be mor effective if the participants will be allowed t meet for half a day to familiarize them with th objectives and coverage of such training and t identify their problems and possible solution to be offered by the group. After the half-da sessions, participants are allowed to return t their respective stations to continue learnin through modules and/or peer training. At thi period, the district supervisor visits them to giv needed assistance. This is a continuing proces

Phase III provides enrichment trainin characterized by identifying and using teacher potentials to prepare supplementary teachin aids, modules suited to local needs, an enrichment activities of existing teachin guides. Trainees may make a critique of th training program materials. Fellowship stud tours may be conducted. Such training progra scheduled by semesters may last for only a da The trainers, staff and resource persons a involved in conducting such training. This is continuing program.

It is to be emphasized that while quantity the focus for this school year 1976-77, the phases of training will take care of ensuri quality training.

Target audience for such a training sche includes in-schoolers and the non-school po ulation made up partly of out-of-school you and the adult literates and illiterates. The mod shows that non-school population should introduced to population education because t group believes that the number of no schoolers is much greater and therefo expected to exert a great influence on t in-schoolers.


Training Staff (PEP)
Division Level
STT (1)
Train
All
ADMINISTRATORS
District Supervisors
Elementary Principals
High School Principal
Head Teachers
SUPERINTENDENT
Superintendent
Selects
(B)
Resource Group
(Specializations)
(A)
Group for
Basic
Training
Mobile
I
Teachers'
Basic
Training
II
Teachers'
Follow-
through
III
Teachers'
Enrichment
Administrators' and Trainers'
Development Program
(4)
TOP-LEVEL ORIENTATION PROGRAM
for Regional Coordinators,
Superintendents, Heads of Colleges
Regional Director
Staff & Consultants
(3)
STT
Training
REORIENTATION
National Level
National Training
Team
(2)
DIVISION CORE OF TRAINERS
Selected STTs, Supervisors,
Head Teachers
Follow-through
Program
Enrichment
Program
Peer Training
and Module

77

Teacher Training

TRAINEES/COUNT		TRAINING PROGRAM/DESIGN			
				STAFF	TIME
Applicants Pre-service before '77	UNTRAINED TEACHERS	I BASIC TRAINING	Awareness and Basic PEP Teaching Competence; Attitude Change	with TEAM (A)	100% by Summer 1977 or before Cost Entailed
Pre-Service after '77	TRAINED TEACHERS	II FOLLOW-THROUGH	In-Depth Study of Population Concepts Module Behavior Change — Peers & Resource Persons	with Peers and Team (B)	TIME Continuing Cost Entailed
		III ENRICHMENT	Production Workshops	with Resource Persons and Team (B)	TIME Continuing Cost Entailed
Classroom Teachers ACETC	Target: 100%	QUALITY TRAINING			

TARGET AUDIENCE — School and Non-School Population OSY and Adults, Literate, Illiterate

TIME LINE

MOBILE TEAM (A)

Basic Training

for

UNTRAINED TEACHERS

WITHIN FIRST SEMESTER

(July to October)

July-August: Training for Trainers

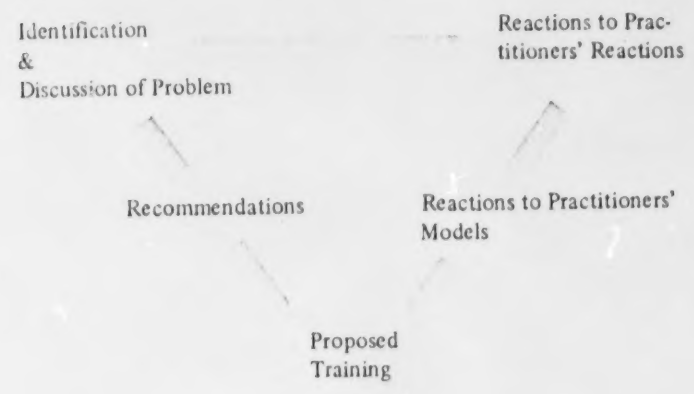
September-October	50% of Zones In a Division	CLUSTERS	100%
November-December	50% of Zones In a Division		

TRAINED TEACHERS

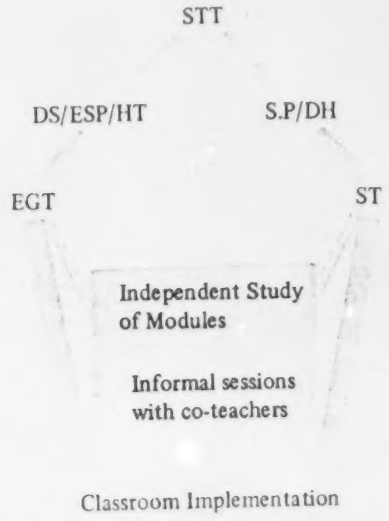
79

Self-Development Training Approach
Group III Administrators' Workshop Model

I. How the Model was evolved:



II. The Proposed Training Scheme Model

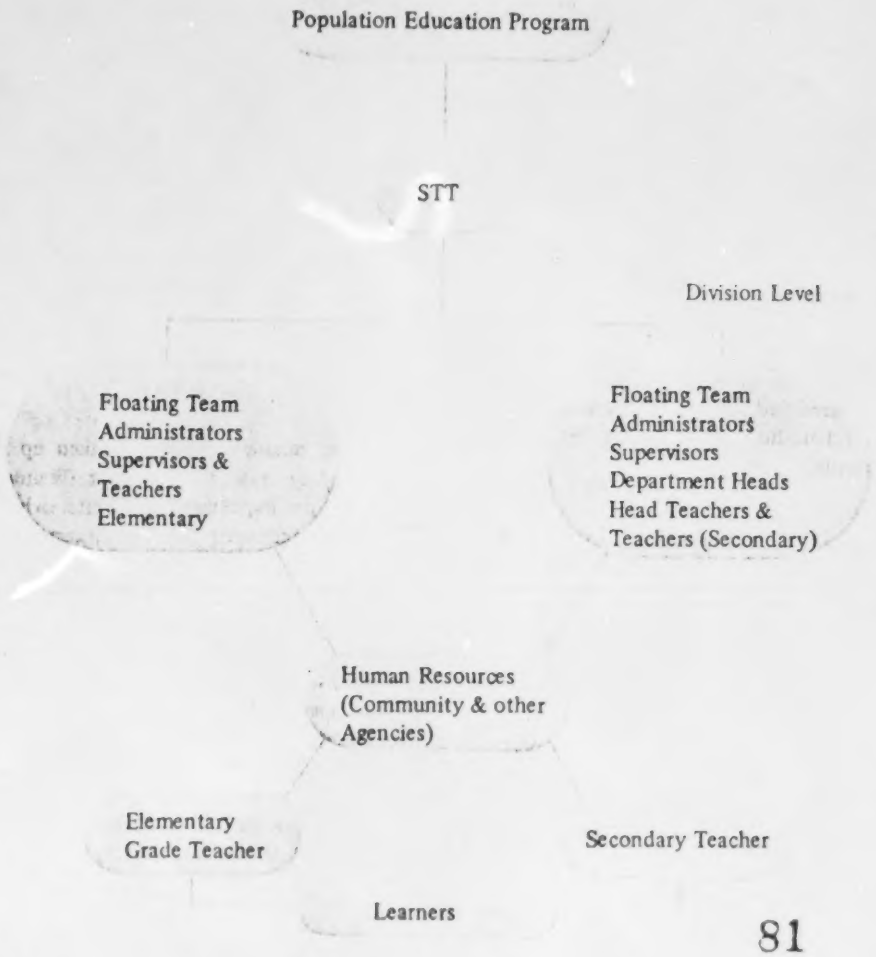


Classroom Implementation

– when modules are available

Mobile Training Approach
Group IV Administrators' Workshop Model

A review of the different schemes designed by teachers and supervisors in a workshop held from April 27-30, 1976, shows group agreement with the objectives, the contents and strategies. The flow of activities was revised and simplified as follows:



81

LEARNERS

1. The floating team consists of competent administrators, supervisors, and teachers who may go from one school to another or from one district to another to train the teachers, both on the elementary and secondary levels. There may be more than one depending on the number of untrained teachers. The floating team may be replenished as the training goes on, thus, minimizing the withdrawal of the members from their respective posts for a long time. This will also take care of members who may be transferred, promoted or retired.

2. The length of the training should be increased to at least seven days to give the teachers enough time to evaluate the demonstration lessons that try out the units.

3. The training may be held continuously or on a staggered basis.

4. If and when the modules come early in 1977, the modified scheme can be adopted after an orientation on their use by the proper people.

Group B

Tri-Scheme Approach
Group I Practitioners' Workshop Model

I. Objectives:

Long term:
To train the greatest number of teachers in the shortest possible time using the tri-scheme approach:

Immediate:

A. Knowledge

1. To deepen teachers' awareness of the population situation on both the micro and macro levels;

B. Attitude

1. To promote closer coordination among peers, superiors and teachers;
2. To analyze values regarding population education;

C. Practice

1. To provide modules for the 25 per cent untrained teachers in the division;
2. To enlist the services of STTs during the consultation and orientation phases;
3. To utilize trained teachers for peer teaching;
4. To integrate Population Education into the five subject areas;

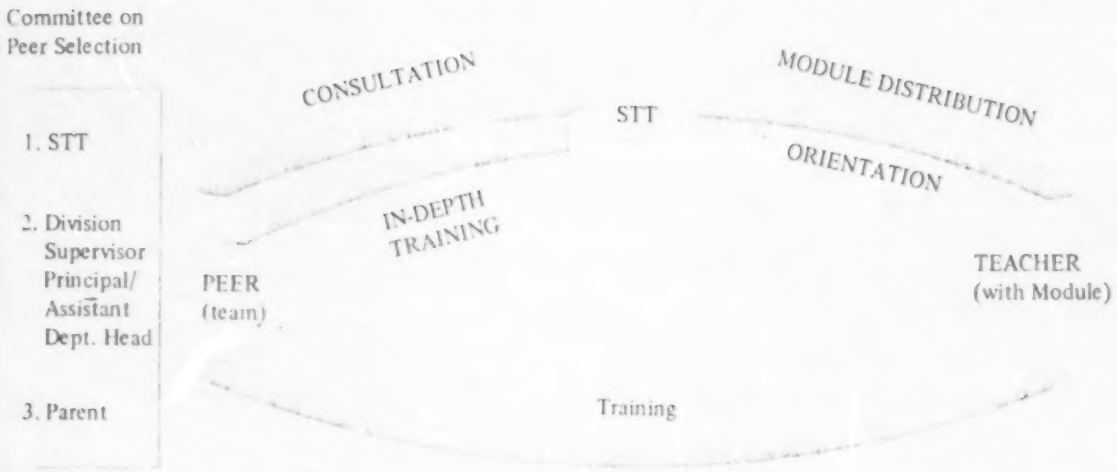
II. Content:
The group retained the topics taken up in the Five-Day Intensive Teacher Training Workshop on Population Education which include the following population concepts:

a. causes of population change
b. reproductive potential and environmental resistance
c. the human population
d. developed and developing countries
e. population structure and the burden of dependency
f. population growth and economic growth
g. family economics and simulation game
h. family size and the right of the child

82

III. Methodology

The Tri Theme Model



1. Peer Selection – a committee composed of the STT, district supervisor, principal, department heads and a parent will select the peer trainer who will guide ten teachers on the use of the modules.

2. A one-week in-depth training of peer trainers will be conducted by STTs and a half-day orientation for teachers on the use of modules will be made after their distribution.

3. Peer trainers will be grouped into teams for formal training and periodic consultations with the STTs.

IV. Length of Training

A. The peer-trainers will have a one-week in-depth training. A half-day orientation on module use will be given teachers in the district. Teachers go back to their schools with their modules.

B. Teachers on modular training will work for two-weeks with the peer teachers without leaving their classes. Local arrangements will be made so that peer training will not disrupt class schedules.

V. Number of Teachers

1. A peer trainor for every 10 teachers.

VI. Training Site

A. Orientation as a group

1. Elementary level – district
1. High school level – mother high school
2. Elementary level – district

B. Peer Training

1. Elementary – school
2. High school – school

C. Module – school or/and home

VII. Training Staff

STTs, district supervisors, administrators compose the training staff.

VIII. Management and coordination of training

Periodic consultations with the training staff.

IX. Cost Effectiveness

The training staff needs stipends for travelling.

The amount reserved for the training of the 25 percent untrained teachers will be used to cover production expenses of the modules.

Modified Training Scheme For Population Education
Group II Practitioners' Workshop Model

Having been exposed to population education, we are now aware of the population situation and its effects on the individual, home, community, country and the whole world.

Recognizing the importance of training, the PEP proposes the following scheme for the more than half of the teachers in the country still untrained:

I. Objectives:

A. General Objective:

1. Accelerate the training of quality teachers with the least cost, time and efforts.

B. Specific Objectives:

1. Recognize the need for PEP
2. Acquire an adequate knowledge of population content
3. Inculcate desirable attitudes toward PEP
4. Utilize appropriate strategies to carry out PEP
5. Upgrade competencies in management and coordination in the PEP
6. Tap available local resources

II. Content

The group agreed to retain the topics in the present scheme: demography, determinants of PE, consequences of RPG, human sexuality and planning for the future, including the various concepts.

III. Methodology

The proposed scheme utilizes the three schemes – the super-ordinate-subordinate for its hierarchical characteristic, the peer scheme for its person-to-person relationship, and the modular training for fast and quality delivery of content.

No specific strategy is given for the training however; the trainer decides on the strategy or techniques suitable for the group. The following strategies are suggested:

1. discovery approach
2. process approach
3. conceptual approach
4. lecture-demonstration
5. individualized study through use of modules
6. use of audo-visuals
7. brainstorming
8. confrontations
9. using springboards for discussion
0. role playing, simulation

IV. Length of Training

The group suggests one week or 40-hour training period for the division and district levels, and two weeks or 80 hours for the peer and modular training. The administrators have an option to hold continuous or staggered training.

V.

It is recommended that 60 teachers be trained at a time. The key teachers in the five subject areas are to be trained along the peer training scheme.

VI.

The site of the training will depend on the level of training conducted. It should be a site strategic to trainees.

VII.

Composition of the training staff will also depend on the level of training, whether division, district or school. To be competent, trainers should, among others, possess these qualities:

1. positive attitudes toward PEP
2. communication skill
3. mastery of PEP content

VIII.

The group arrived at a consensus that giving stipends to trainees should be continued. Materials for modules are to be provided by the PEP.

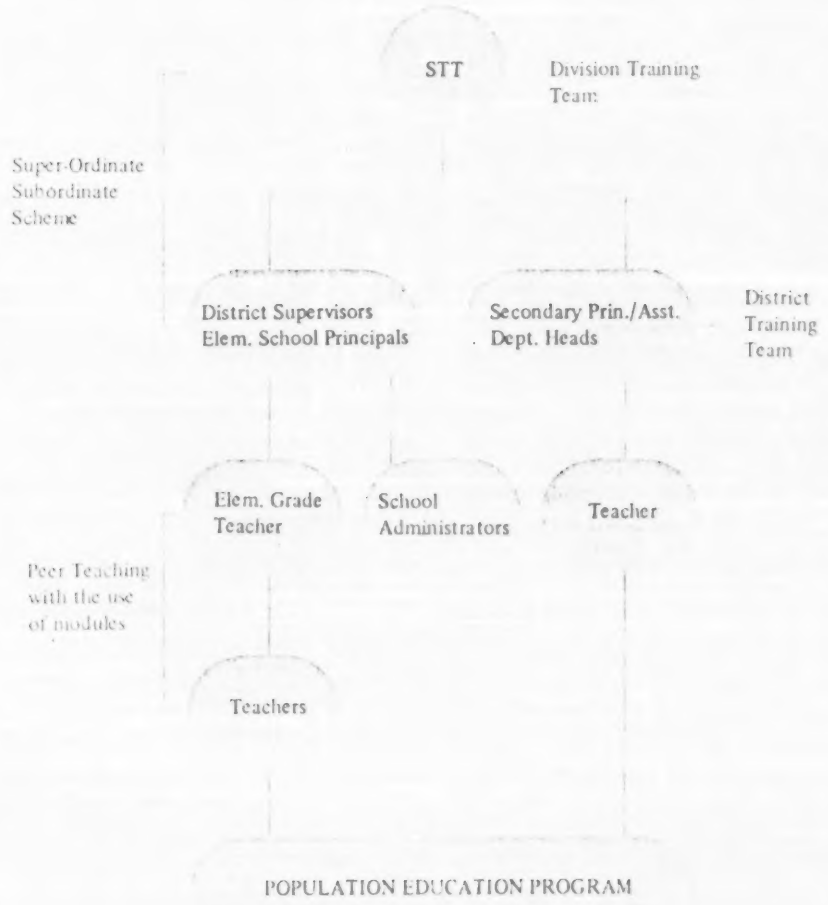
IX. Management and coordination

"Supeermod" Training Scheme
Group III Practitioners' Workshop Model

Rationale:

After a thorough analysis of the varied factors and conditions of the different teaching strategies and the effects of these factors on the constraints faced by the national training program in population, group III opted for new scheme called "Supeermod". A combination of superordinate-subordinate, peer and modular strategies, the new scheme will adapt the hierarchical staffing of the superordinate strategy which is in conformity with our educational set-up, the peer for its favorable change in attitudes among trainees, and the modular for its less expensive quality results.

Flow Chart – Proposed Scheme



86

I. Objectives

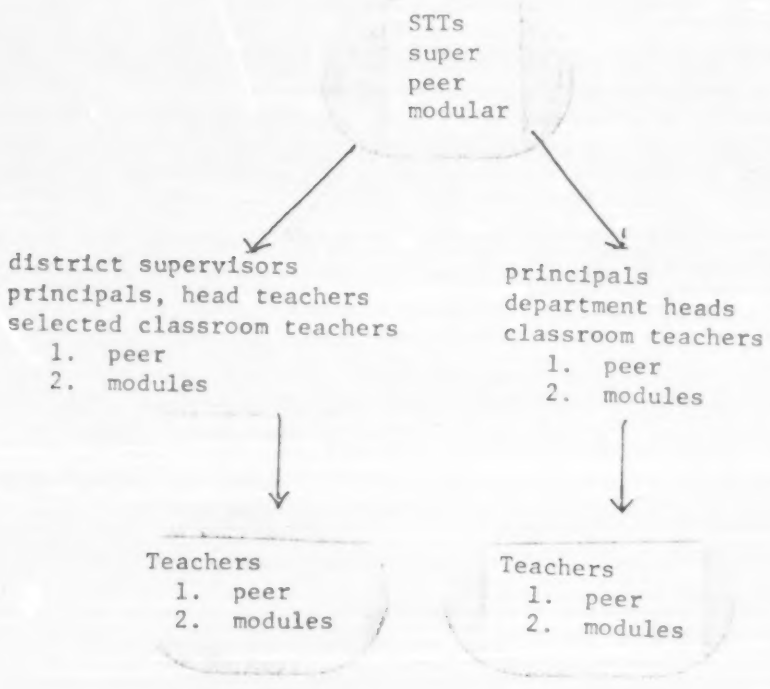
After a series of training courses using the "Supeermod" strategy, teachers are expected to:

a. acquire a thorough and adequate knowledge of population concepts;
b. develop awareness of population situations in both micro and macro levels; and
c. apply varied methodological strategies in putting across population concepts.

II. Content

The content shall be the same as that of the old scheme, covering demography, determinants of population growth, consequences, human sexuality and planning for the future.

Supeermod Training Scheme Patterns



87

III. Methodology

The following are suggested teaching strategies which may be effective in using the "supeermod" approach:

role playing
buzz sessions
field trips
debates
interview and use of resource persons
panel discussions
research and discovery
symposium
mock radio broadcast
film showing
demonstration
brainstorming

IV. Length of Time

The STTs will conduct a three-day refresher course for trainers composed of a team of supervisors, principals, head-teachers, department heads and selected teachers in science, math, home-making arts, social studies and health. Trainers in teams of three will conduct a five-day training course simultaneously, 40 percent to be spent for lecture and 60 per cent for practicum at strategic centers in the division.

V. Number of Teachers

Teachers who have not undergone training will be the subject of this training course. The number of participants is set at 50.

VI. Training Site

The training site should be at strategic places in the division. This should be conducive to learning and should have adequate facilities.

VII. Training Staff

The training staff is composed of three: a team of competent supervisors, head teachers, department heads and competent classroom teachers with STTs as facilitators.

VIII. Management and Coordination

The STTs will conduct a three-day refresher course for trainers to be composed of competent supervisors, principals, head teachers, department heads and teachers. This group will break down into teams of three members each who will conduct the training simultaneously in their respective districts. Modules will be distributed during the training, and problems regarding its use will be taken up.

IX. Cost Effectiveness

Use of the "Supeermod" scheme will incur less expenses, most of which will go to the production of modular materials. Training period will be shortened because it could be done simultaneously and even individually.

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[3]Unesco Regional Office for Education in Asia, Teacher Education and Curriculum for Development, Report of a Regional Planning Workshop, Quezon City, Philippines, May 19-31, 1975, p. 37.

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[5]Op. cit., p. 16.

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[7]Fannie Shaftel, The Stanford Evaluation of Nine Elementary Teacher Training Models, (Stanford University: School of Education, 1969), p. 8.

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[11]Hedley Dimock, Studies on the Effect of Participation on Training & Supervisory Programs, (Toronto: National Seminar on Adult Education Research, 1969), p. 1.

[12]Ibid.

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[17]Vera Reilly and Myron Pembo, "Teachers Views of In-Service Education: A Question of Confidence" Phi Delta Kappan, (Vol.57, No.2, 1975) p. 126.

[18]Harold Tannenbaum and Archie Lacey, "For Elementary Teachers. . . Mass In-service Education" Educational Leadership, (Vol. 25, No. 1, 1967), p. 52.

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[20]Ibid.

[21]William Merwin, "Competency-Based Modules for In-service Education," Educational Leadership, (Vol. 31, No. 4, 1974), p. 330.

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Established to serve as a resource institution for population and family planning activities in the private and public sectors, The POPULATION CENTER FOUNDATION (PCF) is a private primarily grant-making institution set up in 1972 to increase the involvement of the private sector in the country's effort to bring about timely and effective solutions to its population problem.

To support and complement the National Population Program, the Foundation stimulates alternative means towards national population goals; supports the development of new schemes that more fully integrate population with such fields as nutrition, human settlements, environment, and social welfare; and secures the increasing participation of the private sector to all these areas. Toward these ends it has developed four major programs: Program of Assistance to Innovate Projects, aimed primarily at enhancing the efficiency and effectiveness of present population program activities; Technical Assistance Program, aimed at strengthening the institutions implementing population program activities; and Research Program, aimed at expanding the knowledge base needed to upgrade performance, individual competence; and institutional capabilities.

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